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THE NEW YORK CITY RECORD

AND 4

BUILDING TRADES DIRECTORY.

CONTAINING

A COMPLETE DIRECTORY OF ALL BRANCHES OF TRADES ENGAGED IN
THE ERECTION AND CONSTRUCTION OF BUILDINGS, AND THE
FURNISHING AND MANUFACTURING OF MATERIAL
FOR BUILDING PURPOSES.

THE LAWS, RULES AND REGULATIONS GOVERNING THE ERECTION AND
ALTERATION OF BUILDINGS, ADOPTED BY THE LEGISLATURE
OF 1892, FOR THE CITY AND COUNTY OF NEW YORK,
AND MECHANICS' LIEN LAWS.

THE SANITARY AND PLUMBING LAWS, WITH THE SPECIFICATIONS THERETO
ADOPTED AND APPROVED BY THE DEPARTMENT OF BUILDINGS,
OF NEW YORK CITY.

A COMPLETE DIRECTORY OF ALL THE DEPARTMENTS AND BUREAUS OF THE
CITY GOVERNMENT, LOCATION AND OFFICE HOURS, THE HEAD
OFFICIALS AND CHIEF CLERKS THEREOF, WITH NAME,
POSITION AND SALARY.

1882

A COMPLETE WARD ATLAS OF NEW YORK CITY, CORRECTED FROM OFFICIAL
SOURCES, UP TO DATE.

1892

pt. 2

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THE NEW YORK CITY RECORD PUBLISHING CO.

39 to 43 GOLD STREET, NEW YORK.

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Iron & Steel Folding Gates, &c.] 394 [Iron Anchors, Clamps, Ties, &c.
Iron and Steel Forgings.—Iron and Steel Rolling Shutters.—Iron and Steel Roofing
Materials.

IRON AND STEEL FOLDING GATES AND GUARDS FOR BANKS, ELE- VATORS AND OFFICES.

Ætna Iron Works, 298-300 E. 64th (see add p. 51)
Bataille, Achille, 122 W. Broadway (see add p. 23)
Bowes, John J. 229-231 W. 29th (see add p. 43)
Central Iron Works, 203 E. 30th (see add p. 44)
Cook & Radley, 214-220 E. 37th
Cornell, J. B. & J. M. 141 Centre (see add pp. 35, 37, 39)
Dale Tile Mfg. Co. Ltd. 398 Broome (see add p. 49)
Estey, W. S. 65 Fulton (see add p. 24)
Excelsior Elevator Guard and Hatch Cover Co. 139-141 Charles (see add p. 22)
Hafers, Chris. 407 W. 37th (see add p. 34)
Heela Architectural Bronze and Iron Works, Poulson & Eger, Pulitzer bldg, show rooms 48-51 (see add p. 28)
Howard & Morse, 45 Fulton (see add p. 5)
Jackson Architectural Iron Works, 315 E. 28th (see add p. 31)
Lyon, W. E. 202 E. 46th (see add p. 46)
McMurray, Robt. T. & Bro. 141-143 Centre (see add p. 25)
Morse, Williams & Co. 108 Liberty, John Keir, Mgr. (see add p. 11)
Muhl, J. & Son, 329 E. 33d (see add p. 50)
Pitt, William R. Composite Iron Works, 83 Reade
Post & McCord, 102 Broadway (see add p. 33)
Prince & Kinkel Iron Works, 729-731 First av (see add p. 51)
Safety Hatch Door Co. 45 Duane (see add p. 21)
Salem Foundry & Machine Shops, F. E. Idell, 41 Dey (see add p. 17)
Schwoerer, J. 8 E. 2d (see add p. 142)
Standard Elevator Door Co. A. Emer, prop. 136 Liberty (see add p. 22)
Wallis Iron Works, 192 Broadway (see add p. 38)
Williams, John, 544-556 W. 27th (see add p. 56)

IRON AND STEEL FORG- INGS.

Bridgeport Forge Co. 71 Wall
Carnegie, Phipps & Co. 44-46 Wall
Cleveland City Forge and Iron Co. 44 Dey
Gould Coupler Co (Iron). 120 Broadway
Greenlie, Wyatt & Co. 499 Water
Hubbard, Charles & Co. 284 Pearl

IRON AND STEEL ROLLING SHUTTERS.

Ætna Iron Works, 298-300 E. 64th (see add p. 51)
Althause, S. B. & Co. 101-103 Thompson (see add p. 27)
Becker, W. F. & Co. 172 W. Broadway
Clark, Bunnett & Co. 162-164 W. 27th (see add p. 45)
Cook & Radley, 214-220 E. 37th
Lyon, W. E. 202 E. 46th (see add p. 46)
Stuetzer, H. & Co. 474-494 Leonard, 49-61 Van Pelt av, Brooklyn; 39 Dey, N. Y. City (see add p. 40)
Wilson, Jas. G. 74 W. 23d (see add p. 88)

IRON AND STEEL ROOFING MATERIALS.

Cook & Radley, 214-220 E. 37th
Hedden, Eugene B. 35 Broadway (see add p. 42)
Lyon, W. E. 202 E. 46th (see add p. 46)
Milliken Bros. 55 Liberty
Morehead, McClean Co. 81 John
Moseley Iron Bridge and Roofing Co. 5-7 Dey (see add p. 49)
N. Y. Iron Roofing and Corrugating Co. 29 Broadway

H. M. Warren, President. F. L. Warren, Treasurer.
G. M. Malcas, Secretary.

NEW YORK IRON ROOFING AND CORRUGATING CO.,

No. 29 BROADWAY,

Works, Jersey City, N. J. NEW YORK.

See Advertisement, page 51.

Stuetzer, H. & Co. 474-494 Leonard, 49-61 Van Pelt av, Brooklyn; 39 Dey, N. Y. City (see add p. 40)
Wallis Iron Works, 95 Liberty (see add p. 38)
Westing, Theo. 449-455 W. 41st
Wines, W. D. 44 Centre
Yale Safe and Iron Co. 331 Madison av

IRON ANCHORS, CLAMPS AND TIES FOR MASON WORK.

Ætna Iron Works, 298-300 E. 64th (see add p. 51)
Althause, S. B. & Co. 101-103 Thompson (see add p. 27)
Butler Hardware Co. 18 Warren
Central Iron Works, 203 E. 30th (see add p. 44)
Cook & Radley, 214-220 E. 37th

Cornell, J. B. & J. M. 141 Centre 26th st. 10th and 11th avs. (see add pp. 35, 37, 39)
 Hafers, Chris. 407 W. 37th (see add p. 34)
 Hecla Architectural Bronze and Iron Works.
 Poulson & Eger, Pulitzer bldg. show rooms 48-51 (see add p. 28)
 Jackson Architectural Iron Works, 315 E. 28th (see add p. 31)
 Lyon, W. E. 202 E. 46th (see add p. 46)
 Marren's, Jos. Sons, 157 E. 44th
 Muhl, J. & Son, 329 E. 33d (see add p. 50)
 Phoenix Iron Co. 10 W. 23d
 Post & McCord, 102 Broadway
 Prince & Kinkel Iron Works, 729-731 First av (see add p. 51)
 Stuetzer, H. & Co. 474-494 Leonard, 49-61 Van Pelt av, Brooklyn; 39 Dey, N. Y. City (see add p. 40)
 West Side Architectural Iron Works, 550-560 W. 33d (see add p. 29)
 Westing, Theo. 449-455 W. 41st
 Yale Safe and Iron Co. 331 Madison av

IRON, ARTISTIC WROUGHT, WORK.

Etna Iron Works, 298-300 E. 64th (see add p. 51)
 Althause, S. B. & Co. 101-103 Thompson (see add p. 27)
 Atlantic Iron Works, 706 E. 12th
 Atlas Iron Works, Times bldg, 40 Park row
 Bent, S. S. & Son, 111 Chambers
 Bowes, John J. 227-229 W. 29th (see add p. 43)
 Cameron Iron Works, 182 Sixth av
 Carrere & Haas Iron Works, Lincoln bldg, 1-3 Union sq cor. 14th
 Central Iron Works, 203 E. 30th (see add p. 44)
 Cheney & Hewlett, 38 Park row (see add p. 41)
 Cheney & Preyer, 21 Park row
 Conover, J. S. & Co. 28-30 W. 23d (see add p. 85)
 Cook & Radley, 214-220 E. 37th
 Cook, Francis, 407 W. 36th
 Cornell, J. B. & J. M. 141 Centre, W. 26th, Tenth and Eleventh avs (see add pp. 35, 37, 39)
 Corrugated Iron Co. 115 Broadway
 Dimond, J. G. & T. 209-211 W. 33d
 Eagle Wrought Iron Works, 125 Horatio, 527 West
 Empire Iron Works, 518-520 W. 22d
 Empire Metal Working Co. 76 Fifth av
 Estey, W. S. 65 Fulton (see add p. 24)
 Fiske, J. W. 26 Park pl, 21 Barclay
 Grimm, Richard, 432 E. 18th (see add p. 48)
 Hafers, Chris. 407 W. 37th (see add p. 34)
 Hecla Architectural Bronze and Iron Works,
 Poulson & Eger, Pulitzer bldg. show rooms, 48-51 (see add p. 28)
 Hedden, Eugene B. 35 Broadway
 Hoffman & Shuback, 125 Horatio
 Howard & Morse, 45 Fulton (see add p. 5)
 Jackson Architectural Iron Works, 315 E. 28th (see add p. 31)
 Jackson, W. H. & Co. 29 E. 17th (see add p. 84)
 Kirtland, Andrews & Co. 46-48 Union sq. cor. 17th (see add p. 83)

Lincoln Iron Works, 192 Broadway
 Luetke, Oscar, 662-668 Hudson (see add opp. Ninth Ward)
 Lyon, E. W. 202 E. 46th (see add p. 46)
 McDougal & Potter, 606 W. 55th
 Marren's, Jos. Sons, 157 E. 44th
 Metropolitan Iron Works, 304-306 E. 95th
 Milliken Bros. 55 Liberty
 Moseley Iron Bridge and Roofing Co. 5-7 Dey (see add p. 49)
 Mott, J. L. Iron Works, 88-90 Beekman
 Muhl, J. & Son, 329 E. 33d (see add p. 50)
 Muller, Jacob, 418-420 E. 62d (see add p. 52)
 Nichols, Sam'l & Son, 66 W. 3d
 Phoenix Iron Co. Wm. H. Gulick, Contracting Agt. 10 W. 23d
 Pitt, Wm. R. Composite Iron Works, 83 Reade
 Post & McCord, 102 Broadway (see add p. 33)
 Pries, W. H. 433-434 Canal
 Prince & Kinkel Iron Works, 727-731 First av (see add p. 51)
 Richey, Brown & Donald, 218-224 No. 11th, 20-22 Roebing, Brooklyn (see add p. 47)
 Riverside Bridge and Iron Works, The, 18 Broadway
 Rooney, John S. 235 Centre
 Schoonover, J. S. E. 2d (see add p. 142)
 Standard Iron Works, 261-263 W. 27th
 Stuetzer, H. & Co. 474-494 Leonard, 49-61 Van Pelt av, Brooklyn; 39 Dey, N. Y. City (see add p. 40)
 Taubert, Albert, 1612 Broadway
 Union Iron Works, The, 29 Broadway
 Vreeland, G. A. 1364 Broadway
 Wallis Iron Works, Corbin bldg, 192 B'dway (see add p. 38)
 West Side Architectural Iron Works, 550-560 W. 33d (see add p. 29)
 Westervelt, A. B. & W. T. 102 Chambers (see add p. 203)
 Westing, Theo. 449-455 W. 41st
 Whitney, A. R. & Co. 29 Broadway
 Williams, John, 544-556 W. 27th (see add p. 36)
 Wines, Wm. D. 44 Centre
 Yale Safe & Iron Co. 331 Madison av

IRON BALCONIES, VERAN- DAS, WINDOW GUARDS AND FENCES.

Etna Iron Works, 290-300 E. 64th (see add p. 51)
 Ahr, Anton, 699 Elton av

ANTON AHR,
MANUFACTURER OF

Plain and Ornamental Railings,

699 ELTON AVENUE,

Between 154th and 155th Sts., NEW YORK.

Fire Escapes, Awning Frames & Iron Work in General
 Jobbing of all Kinds Promptly Attended to.

Ahr, Henry E. 148th and Willis av
 Alexander, W. J. & Co. 3 York
 Althause, S. B. & Co. 101-103 Thompson (see add p. 27)
 Atlantic Iron Works, 706 E. 12th
 Automatic Fire Shutter Co. 198 Broadway

Ayres, Abraham, 506 W. 45th
 Bataille, Achille, 122 W. Broadway (see add p. 23)
 Bayer & Schebner, 449 W. 41st
 Beaur, Martin R. 1708 Lexington av
 Bent S. S. & Son, 111 Chambers
 Boden, James, 756 Greenwich
 Boggart W. 349 E. 103d
 Bowes, John J. 227-229 W. 29th (see add p. 43)
 Burrows & Smith, 307 E. 122d
 Carlin, Luke, 313 E. 40th
 Carrere & Haas Iron Works, Lincoln bldg, 1-3 Union sq cor. 14th
 Centennial Iron Works, 140 Elm
 Central Expanded Metal Co. 67 Reade (see add p. 114) J. K. Combs, Mgr.
 Central Iron Works, 203 E. 30th (see add p. 44)
 Cheney & Hewlett, 38 Park row (see add p. 41)
 Cheney & Preyer, 21 Park row
 Clark, Bunnett & Co. 162-164 W. 27th (see add p. 45)
 Clark, Jos. 713 Seventh av
 Cochran, J. L. 195 So. Fifth av
 Cook, Francis, 407 W. 36th
 Cook & Radley, 212-220 E. 37th
 Cornell, J. B. & J. M. 141 Centre, and 26th st. 10th and 11th av (see add pp. 35, 37, 39)
 Curry, William, 553 W. 54th
 Darmstadt, Emile, 306 E. 93d
 Davis, Kohlen & Co. 310 E. 110th
 Day, W. T. 22 W. 3d
 Delves, Arnold, 310 E. 110th
 Devine, Thos. 555 W. 49th
 Dimond, J. G. & T. 209-211 W. 33d
 Dudley, William, 142 W. 10th
 Eagle Iron Works, 125 Horatio
 Empire Iron Works, 518 W. 22d
 Essex Iron Works, 310 E. 110th
 Estey, W. S. 65 Fulton (see add p. 24)
 Ferdon, S. B. 129 W. 31st
 Fiske, J. W. 39 Park pl
 Fleck, Michael, 442 Pleasant av
 Fotheringham & Son, 350 W. 18th
 Frausmann, John, 402 E. 105th
 Froehlich & Kirschner, 9 Av. C
 Gauzenmuller, A. 177 E. 74th
 Graf Bros. 649 E. Fifth
 Grimm, Richard, 432 E. 18th (see add d. 48)
 Hafers, Chris. 407 W. 37th (see add p. 34)
 Happel, Adam, 198 Broome
 Hawkins, R. F. 91 Liberty
 Hecla Arch. Bronze & Iron Works (Poulson & Eger) Pulitzer bldg. Show Rooms, 48-51 (see add p. 28)
 Hedden, Eugene B. 35 Broadway (see add p. 42)
 Herman, O. 688 Eleventh av
 Hewlitt & Hart, Sylvan pl. bet Lexington av and Third av
 Hoffman & Schuback, 123 Horatio
 Howard & Morse, 45 Fulton (see add p. 5)
 Howell, M. H. Sons, 368 W. 11th
 Hunter Iron Works, 419 E. 91st
 Irons & Co. 103 E. 130th
 Jackson Arch. Iron Works, 315 E. 28th (see add p. 31)
 Kautzman, T. & W. 180 Grand
 Kleeman, J. O. 216 E. 29th
 Kochler, C. 349 E. 103d
 Lincoln Iron Works, Corbin bldg, 192 B'dway
 Lindsay, W. A. 61 Warren
 Lyon, W. E. 202 E. 46th (see add p. 46)
 McCaffey, W. H. 357 W. 26th

McDougall & Potter, 606-614 W. 55th
 McGinnis, E. & Co. 360 E. 76th
 McLean, John, 298 Monroe
 Marren's, Jos. Sons, 157 E. 44th
 Metropolitan Iron Works, 304-306 E. 95th
 Moeslin, Valentine, 420 E. 48th
 Mohr, J. A. 5 First
 Moseley Iron Bridge & Roof Co. 5-7 Dey (see add p. 49)
 Mott, J. L. Iron Works, 88 Beekman
 Muhl & Son, 329 E. 33d (see add p. 50)
 Mullins, W. H. 108 Chambers
 Mundel, Edmund, 92 Pitt
 Murphy & Fink, 2056 Seventh av
 Murphy, Patrick, 222 Wooster
 Murray, Peter, 139 W. 19th

PETER MURRAY,

Manufacturer of

Plain & Ornamental Iron Railings,

FIRE ESCAPES. SHUTTERS, &c.

139 WEST NINETEENTH ST.,

Bet. 6th and 7th Avenues,

NEW YORK.

Nation Iron Fence Co. 173 Broadway
 New York Iron Roofing & Corrugating Co. 29 Broadway (see add p. 51)
 Nichols, S. & Son, 66 W. 3d
 North American Iron Works, 90 Beekman
 Nuerrizig, Jos. 9 Av. C
 Nuhn & Strabacker, 227 E. 6th
 Oltarsh, W. 8 Eldridge
 Palmer, Benj. 811 Seventh av
 Palmer, Harris, 549 W. 34th
 Pitt, Wm. R. Composite Iron Works, 83 Reade
 Post & McCord, 162 Broadway (see add p. 33)
 Pries, W. H. 434 Canal
 Prince & Kinkel Iron Works, 729-731 First av (see add p. 51)
 Richey, Brown & Donald, 218-224 No. 11th and 20-22 Roebling st. Brooklyn (see add p. 47)
 Ries, Fred. 22 Rivington
 Rooney, John S. 235 Centre
 Rosenzweig, Jos. 64 Clinton
 Scheck, John, 1221 Third av
 Schopp, Frank, 349 E. 31st
 Schraum, M. W. 1319 Third av
 Schwartz & Massoth, 49 Sheriff
 Siebold, Henry F. 209 E. 47th
 Siesfeld, I. 2430 Park av
 Simmons, John, 106 Centre
 Skillman, H. S. 237-239 Broadway
 Stuetzer, H. & Co. 474-494 Leonard, 49-61 Van Pelt av. Brooklyn; 39 Dey, N. Y. (see add p. 40)
 Taubert, Albert, 1612 Broadway
 Taylor, James, 202 Greene
 Thompson Mfg. Co. 81-83 Fulton
 Vreeland, G. A. 229 W. 36th
 Wallis Iron Works, Corbin bldg, 192 B'dway, 7-15 Morris av, Jersey City (see add p. 38)
 Wagner, Adam, 22 Eldridge
 Wagner, Jos. 372 Seventh av
 Webber, J. V. & Sons, 150 E. 25th
 Weldon, John, 56 Trinity pl
 Weldon, P. M. 34 Stone
 West Side Arch. Iron Works, 553 W. 33d (see add p. 29)
 Westervelt, A. B. & W. T. 102 Chambers (see add p. 293)
 Westing, Theo. 449-455 W. 41st
 Williams, John, 544-556 W. 27th (see add p. 36)

Wyer, Lawrence, 23 Worth
Yale Safe & Iron Co. 331 Madison av

IRON BANK VAULTS, STORES AND SAFES.

Althause, S. B. & Co. 101-103 Thompson (see add p. 27)
Cornell, J. B. & J. M. 141 Centre, W. 26th, 10th and 11th aves. (see add pp. 35, 37, 39)
Hafers, Chris. 407 W. 37th (see add p. 34)
Hecla Architectural Bronze & Iron Works, Poulson & Eger, Pulitzer bldg. Show Rooms 48-51 (see add p. 28)
Jackson Arch. Iron Works, 315 E. 28th (see add p. 31)
Lyon, W. E. 202 E. 46th (see add p. 46)
Post & McCord, 102 Broadway (see add p. 33)
Stuetzer, H. & Co. 39 Dey st. N. Y. City, 474-494 Leonard, 49-61 Van Pelt av. Brooklyn (see add p. 40)
West Side Architectural Iron Works, 550-560 W. 33d (see add p. 29)
Yale Safe & Iron Co. 331 Madison av

IRON BEAMS, ANGLES, CHANNELS AND T. IRON.

Allentown Rolling Mill Co. 18 Cortlandt
Althause, S. B. & Co. 101-103 Thompson (see add p. 27)
Blake & Duffy, 513-519 W. 25th
Bowers, John J. 227-229 W. 29th (see add p. 43)
Carnegie, Phipps & Co. 46 Wall
Carrere & Haas Iron Works, Lincoln bldg, 1-3 Union sq. cor 14th
Central Iron Works, 203 E. 30th (see add p. 44)
Cheney & Hewlett, 38 Park row (see add p. 41)
Cheney & Preyer, 21 Park row
Columbia Iron & Steel Co. 81 Fulton
Cook, Francis, 407 W. 36th
Cook & Radley, 214-220 E. 37th
Cooper, Hewitt & Co. 17 Burling sl
Cornell, J. B. & J. M. 141 Centre, 26th st, 10th & 11th avs (see add pp. 35, 37, 39)
Cowley Lancaster Steel Co. 202 Broadway
Dimond, J. G. & T. 209-211 W. 33d
Eagle Wrought Iron Works, 125 Horatio and 527 West
Grimm, Richard, 432 E. 18th (see add p. 48)
Hafers, Chris. 407 W. 37th (see add p. 34)
Hawkins, R. F. Iron Works, 91 Liberty
Hecla Architectural Bronze & Iron Works, Poulson & Eger, Pulitzer bldg. Show Rooms 48-51 (see add p. 28)
Hedden, Eugene B. 35 Broadway (see add p. 42)
Jackson Arch. Iron Works, 315 E. 28th (see add p. 31)
Lincoln Iron Works, 192 Broadway
Lyon, W. E. 202 E. 46th (see add p. 46)
Marren's, Jos. Sons, 157 E. 44th

Metropolitan Iron Works, 304-306 E. 95th
Milliken Bros. 55 Liberty
Moffat, F. D. 81 Fulton
Mott, J. L. Iron Works, 88 Beekman
Muhl, J. & Son, 329 E. 33d (see add p. 50)
New Jersey Steel & Iron Works, 17 Burling sl
Ogden & Wallace, 85 91 Elm
Passaic Rolling Mill Co. 45 Broadway
Phoenix Iron Co. William H. Gulick, Contracting Agent, 10 W. 23d
Post & McCord, 102 Broadway (see add p. 33)
Prince & Kinkel Iron Works, 729-731 First av (see add p. 51)
Riverside Bridge & Iron Works, The, 18 Broadway
Stuetzer, H. & Co. 39 Dey st. N. Y. City, 474-494 Leonard, 49-61 Van Pelt av. Brooklyn (see add p. 40)
Toop, Geo. H. 406 E. 91st
Trenton Iron Works, 17 Burling sl
Union Iron Works, The, 45 Broadway
Wallis Iron Works, Corbin bldg. 192 Broadway (see add p. 38)
West Side Arch. Iron Works, 550-560 W. 33d (see add p. 29)
Westing, Theo. 449-455 W. 41st
Whitney, A. R. & Co. 29 Broadway
Yale Safe & Iron Co. 331 Madison av

IRON BEDSTEADS FOR HOSPITALS AND INSTI- TUTIONS.

Koch, Wm. 165 Orchard
Marren's, Jos. Sons, 157 E. 44th
Pitt, Wm. R. Composite Iron Works, 83 Reade

IRON BRIDGES FOR RAIL- ROADS, PARKS AND HIGHWAYS.

Carrere & Haas Iron Works, Lincoln bldg, 1-3 Union sq. cor. 14th
Cheney & Hewlett, 38 Park row (see add p. 41)
Cheney & Preyer, 21 Park row
Columbia Iron & Steel Co. 81 Fulton
Cook & Radley, 214-220 E. 37th
Cooper, Hewitt & Co. 17 Burling sl
Cornell, J. B. & J. M. 141 Centre, 26th st, 10th, and 11th avs (see add pp. 35, 37, 39)
Dean & Westbrook, 32 Liberty
Froment, Frank L. 112 John
Hafers, Chris. 407 W. 37th (see add p. 34)
Hawkins, R. F. Iron Works, 91 Liberty
Jackson Architectural Iron Works, 815 E. 28th (see add p. 31)
King Iron Bridge Co. 18 Broadway

KING IRON BRIDGE AND MANUFACTURING CO.,

Room 520, Welles Building,
18 Broadway, New York City.

IRON AND STEEL BRIDGES,
VIADUCTS, ROOFS AND
GENERAL STRUCTURAL WORK.

Lincoln Iron Works, 192 Broadway
 Lyon, W. E. 202 E. 46th (see add p. 46)
 Marren's, Jos. Sons, 157 E. 44th
 Metropolitan Iron Works, 304-406 E. 95th
 Milliken, Brothers, 55 Liberty
 Moseley Iron Bridge & Roof Co. 5 and 7 Dey
 (see add p. 49)
 New Jersey Steel & Iron Co. 17 Burling sl
 Passaic Rolling Mill Co. 45 Broadway
 Peneoyd Bridge & Construction Co. 35 Broad-
 way
 Phoenix Bridge Works, 49 William
 Post & McCord, 102 Broadway (see add p. 33)
 Poughkeepsie Bridge Co. 115 Broadway
 Riverside Bridge & Iron Works, The, 18 Broad-
 way
 Stuetzer, H. & Co. 39 Dey (see add p. 40)
 Union Bridge Co. 1 Broadway
 Union Iron Works, The, 45 Broadway
 Wallis Iron Works, Corbin bldg, 192 Broadway

WALLIS IRON WORKS. **ELEVATED RAIL ROADS, IRON BRIDGES, &c.**

MAIN OFFICE AND WORKS,

7, 9, 11, 13 & 15 Morris Street, Jersey City.

NEW YORK OFFICE, 192 BROADWAY.

See Advertisement, page 38.

Whitney A. R. & Co. 29 Broadway
 Yale Safe & Iron Works, 331 Madison av

IRON, BRIDLE IRONS AND TRUSS PLATES.

Ætna Iron Works, 298-300 E. 64th (see add p.
 51)
 Althause, S. B. & Co. 101-103 Thompson (see
 add p. 27)
 Butler Hardware Co. 18 Warren
 Central Iron Works, 203 E. 30th (see add p. 44)
 Cook & Radley, 214-220 E. 37th
 Cornell, J. B. & J. M. 141 Centre, 26th, 10th
 and 11th aves (see add pp. 35, 37, 39)
 Grimm, Richard, 432 E. 18th (see add p. 48)
 Hafers, Chris. 407 W. 37th (see add p. 34)
 Jackson Arch. Iron Works, 315 E. 28th (see add
 p. 31)
 Lyon, W. E. 202 E. 46th (see add p. 46)
 McDougal & Potter, 606 W. 55th
 Marren's, Jos. Sons, 157 E. 44th
 Muhl, J. & Sons, 329 E. 33d (see add p. 50)
 Pollack, Alexander, 15 Cortlandt
 Post & McCord, 102 Broadway (see add p. 33)
 Prince & Kinkel Iron Works, 727-731 First av
 (see add p. 51)
 Stuetzer, H. & Co. 39 Dey st. N. Y. City, 474-
 494 Leonard st. 49-61 Van Pelt av. Brooklyn
 (see add p. 40)
 The Lincoln Iron Works, Corbin bldg. 192
 Broadway
 Westing, Theo. 449-455 W. 41st
 West Side Architectural Iron Works, 550-560
 W. 33d (see add p. 29)
 Yale Safe & Iron Co. 331 Madison av

IRON BUILDINGS, FRONTS AND ROOFS.

Ætna Iron Works, 298-300 E. 64th (see add
 p. 51)
 Althause, S. B. & Co. 101-103 Thompson (see
 add p. 27)
 Atlas Iron Works, Times bldg. 41 Park row
 Bowes, John J. 227-229 W. 29th (see add p.
 43)
 Carnegie, Phipps & Co. 46 Wall
 Carrere & Haas Iron Works, Lincoln bldg.
 1-3 Union sq cor. 11th
 Central Iron Works, 203 E. 30th (see add p.
 44)
 Cheney & Hewlett, 38 Park row (see add p.
 41)
 Cheney & Preyer, 21 Park row
 Cook & Radley, 214-220 E. 37th
 Cook, Francis, 407 W. 36th
 Cooper, Hewitt & Co. 17 Burling sl
 Cornell, J. B. & J. M. 141 Centre, 26th st.
 Tenth and Eleventh av (see add pp. 35, 37,
 39)
 Dimond, J. G. & T. 209-211 W. 33d
 Economy Foundry Co. Geo. H. Raymond,
 manager, 114 Liberty (see add p. 19)
 Ferdon, Samuel B. 129 W. 31st
 Grimm, Richard, 432 E. 18th (see add p. 48)
 Hafers, Chris. 407 W. 37th (see add p. 34)
 Hawkins, R. F. 91 Liberty
 Hecla Architectural Bronze & Iron Works,
 Poulson & Eger, Pulitzer bldg. show rooms
 48-51 (see add p. 28)
 Hedden, Eugene B. 35 Broadway (see add p.
 42)
 Jackson Arch. Iron Works, 315 E. 28th (see
 add p. 31)
 Lindsay, W. A. 61 Warren
 Lyon, W. E. 202 E. 46th (see add p. 46)
 Metropolitan Iron Works, 304 E. 95th
 Milliken Bros. 55 Liberty
 Moffat, F. D. 81 Fulton
 Moseley Iron Bridge & Roof Co. 29 Broadway
 (see add p. 49)
 Muhl, J. & Son, 329 E. 33d (see add p. 50)
 Mullins, W. H. 108 Chambers, J. T. Wagner,
 Agt.
 Nichols, S. & Son, 66 W. 3d
 N. Y. Iron Roofing & Corrugating Co. The,
 29 Broadway (see add p. 51)
 Passaic Rolling Mill Co. 45 Broadway
 Phoenix Iron Co., William H. Gulick, con-
 tracting agent, 10 W. 23d
 Post & McCord, 102 Broadway (see add p.
 33)
 Prince & Kinkel Iron Works, 729-731 First
 av (see add p. 51)
 Riverside Bridge & Iron Works, The, 18
 Broadway
 Salem Foundry & Machine Works, F. E.
 Idell, 41 Dey (see add p. 17)
 Stuetzer, H. & Co. 474-494 Leonard & 49-61
 Van Pelt av, Brooklyn, 39 Dey, N. Y. city
 (see add p. 40)
 Trenton Iron Co. 17 Burling sl

Union Iron Works, 29 Broadway
 Vreeland, G. 229 W. 36th
 Wallis Iron Works, Corbin bldg, 192 B'dway
 (see add p. 38)
 West Side Arch. Iron Works, 553 W. 33d
 (see add p. 29)
 Yale Safe & Iron Co. 331 Madison av

IRON CIRCULAR STAIRS.

Etna Iron Works, 298-300 E. 64th (see add p. 51)
 Althause, S. B. & Co. 101-103 Thompson (see add p. 27)
 Atlas Iron Works, Times bldg, 41 Park row
 Bent, Samuel S. 111 Chambers
 Bowes, John J. 227-229 W. 29th (see add p. 43)
 Carrere & Haas Iron Works, Lincoln bldg.
 1-3 Union sq. cor. 14th
 Central Iron Works, 203 E. 30th

CENTRAL IRON WORKS,

Manufacturers of all

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203 EAST 30th STREET, NEW YORK.

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See Advertisement, page 44.

Cheney & Hewlett, Potter bldg. 38 Park row
 (see add p. 41)
 Cook & Radley, 214-220 E. 37th
 Cornell, J. B. & J. M. 141 Centre, & 26th st.
 Tenth & Eleventh avs (see add pp. 35, 37, 39)
 Dimond, J. G. & T. 209-211 W. 33d
 Economy Foundry Co., Geo. H. Raymond, manager, 114 Liberty (see add p. 19)
 Fiske, J. W. 26 Park pl & 21 Barclay
 Grimm, Richard, 432 E. 18th (see add p. 48)
 Hafers, Chris. 407 W. 37th (see add p. 34)
 Hecla Architectural Bronze & Iron Works, Poulson & Eger, Pulitzer bldg. show rooms 48-51 (see add p. 28)
 Hedden, Eugene B. 35 Broadway (see add p. 42)
 Jackson Arch. Iron Works, 315 E. 28th (see add p. 31)
 Lyon, W. E. 202 E. 46th (see add p. 46)
 Marren's, Jos. Sons, 157 E. 44th
 Muhl, J. & Son, 329 E. 33d (see add p. 50)
 Phoenix Iron Co., William H. Gulick, contracting agent, 10 W. 23d
 Pitt, Wm. R. Composite Iron Works, The, 83 Reade
 Post & McCord, 102 Broadway (see add p. 33)
 Prince & Kinkel Iron Works, The, 729-731 First av (see add p. 51)
 Richey, Brown & Donald, 218-224 N. 11th & 20-22 Roebbing, Brooklyn (see add p. 47)
 Riverside Bridge & Iron Co. The, 18 Broadway

Stuetzer, H. & Co. 474-491 Leonard & 49-61 Van Pelt av. Brooklyn, & 39 Dey, N. Y. city (see add p. 40)
 Wallis Iron Works, Corbin bldg, 192 Broadway (see add p. 38)
 West Side Arch. Iron Works, 553 W. 33d (see add p. 29)
 Westing, Theo. 449-455 W. 41st
 Williams, John, 544-556 W. 27th (see add p. 36)
 Yale Safe & Iron Co. 331 Madison av

IRON COLUMNS, GIRDERS, LINTELS AND SILLS.

Etna Iron Works, 298-300 E. 64th (see add p. 51)
 Althause, S. B. & Co. 101-103 Thompson (see add p. 27)
 Atlas Iron Works, Times bldg, 41 Park row
 Bowes, John J. 227-229 First av (see add p. 43)
 Carrere & Haas Iron Works, Lincoln bldg.
 1-3 Union sq. cor. 14th
 Central Iron Works, 203 E. 30th (see add p. 44)
 Cook & Radley, 214-220 E. 37th
 Cornell, J. B. & J. M. 141 Centre & 26th st.
 Tenth and Eleventh avs (see add pp. 35, 37, 39)
 Economy Foundry Co., Geo. H. Raymond, manager, 114 Liberty (see add p. 19)
 Grimm, Richard, 432 E. 18th (see add p. 48)
 Hafers, Chris. 407 W. 37th (see add p. 34)
 Hecla Architectural Bronze & Iron Works, Poulson & Eger, Pulitzer bldg. show rooms 48-51 (see add p. 28)
 Jackson Arch. Iron Works, 315 E. 28th (see add p. 31)
 Lyon, W. E. 202 E. 46th (see add p. 46)
 Marren's, Jos. Sons, 157 E. 44th
 Milliken Bros. 55 Liberty

MILLIKEN BROTHERS,

Designers and Builders of

IRON and STEEL WORK

For Buildings, Roofs, Bridges, &c.

55 Liberty Street, N. Y.

Branch House, 59 Dearborn St., CHICAGO, ILLS
 Muhl, J. & Son, 329 E. 33d (see add p. 50)
 Phoenix Iron Co. 10 W. 23d
 Post & McCord, 102 Broadway (see add p. 33)
 Prince & Kinkel Iron Works, The, 729-731 First av (see add p. 51)
 Schwoerer, J. 8 E. 2d (see add p. 142)
 Springfield Foundry Co. Springfield, Mass. (see add p. 16)
 Stuetzer, H. & Co. 474-491 Leonard & 49-61 Van Pelt av, Brooklyn, & 39 Dey, N. Y. city (see add p. 40)
 Union Iron Works, 29 Broadway
 Wallis Iron Works, Corbin bldg. 192 Broadway (see add p. 38)

West Side Arch. Iron Works, 550-560 W. 33d
(see add p. 29)
Westing, Theo. 449-455 W. 41st
Yale Safe & Iron Co. 331 Madison av

IRON CRESTINGS AND FINIALS.

Ætna Iron Works, 298-300 E. 64th (see add
51)
Althause, S. B. & Co. 101-103 Thompson (see
add p. 27)
Atlas Iron Works, Times bldg. 40 Park row
Bent, Samuel S. 111 Chambers
Bowes, John J. 227-229 W. 29th (see add p.
43)
Briggs, A. A. 124 E. 129th
Carrere & Haas Iron Works, Lincoln bldg.
1-3 Union sq cor. 14th
Central Iron Works, 203 E. 30th (see add p.
44)
Cheney & Hewlett, 38 Park row (see add p.
41)
Cook, Francis, 407 W. 36th
Cook & Radley, 214-220 E. 37th
Cornell, J. B. & J. M. 141 Centre, 26th st.
Tenth and Eleventh avs (see add pp. 35,
37, 39)
Dimond, J. G. & T. 209-211 W. 33d
Eagle Iron Works, 125 Horatio and 527 West
Economy Foundry Co., George H. Raymond,
manager, 114 Liberty (see add p. 19)
Fisk, J. W. 39 Park pl
Grimm, Richard, 432 E. 18th (see add p. 48)
Hafers, Chris. 407 W. 37th (see add p. 34)
Hamsley Metal Roofing Co. 18 Cliff
Hecla Architectural Bronze & Iron Works,
Poulson & Eger, Pulitzer bldg. show rooms
48-51 (see add p. 28)
Hedden, Eugene B. 35 Broadway (see add p.
42)
Howard & Morse, 45 Fulton (see add p. 5)
Jackson Arch. Iron Works, 315 E. 28th (see
add p. 31)
Jones, T. W. 170 Front
Lyon, W. E. 202 E. 46th (see add p. 46)
Marren's, Jos. Sons, 157 E. 44th
Metropolitan Iron Works, 304-306 E. 95th
Mott, J. L. Iron Works, 88 Beekman
Muhl, J. & Son, 329 E. 33d (see add p. 50)
Mullins, W. H. 108 Chambers, J. T. Wagner,
Agt.
Nichols, S. & Son, 66 W. 3d
Palmer, H. 549 W. 34th
Persons, Orrin D. Mohawk bldg. 21st & Fifth
av (see add p. 139)
Phœnix Iron Co., Wm. H. Gulick, contract-
ing agent, 10 W. 23d
Pitt, Wm. R. Composite Iron Works, 83
Reade
Post & McCord, 102 Broadway (see add p.
33)
Prince & Kinkel Iron Works, The, 729-731
First av (see add p. 51)

Schwoerer, J. 8 E. 2d (see add p. 142)
Skillman, Harry S. 237-239 Broadway
Springfield Foundry Co. Springfield, Mass.
(see add p. 16)
Stuetzer, H. & Co. 474-494 Leonard and 49-
61 Van Pelt av, Brooklyn, 39 Dey, N. Y.
city (see add p. 40)
Union Iron Works, The, 29 Broadway
Vreeland, G. 236 W. 36th
Wallis Iron Works, Corbin bldg. 192 Broad-
way (see add p. 38)
Westervelt, A. B. & W. T. 102 Chambers (see
add p. 203)
West, J. D. & Co. 40 Cortlandt
West Side Arch. Iron Works, 550 & 560 W.
33d (see add p. 29)
Westing, Theo. 449-455 W. 41st
Yale Safe & Iron Co. 331 Madison av

IRON ELEVATOR CARS AND ENCLOSURES.

Carrere & Haas Iron Works, Lineoln bldg.
1-3 Union sq. cor. 14th
Central Iron Works, 203 E. 30th (see add p.
44)
Cornell, J. B. & J. M. 141 Centre, 26th st.
10th & 11th avs (see add pp. 35, 37, 39)
Hafers, Chris. 407 W. 37th (see add p. 34)
Hecla Architectural Bronze & Iron Works,
Poulson & Eger, Pulitzer bldg. show rooms
48-51 (see add p. 28)
Howard & Morse, 45 Fulton (see add p. 5)
Jackson Arch. Iron Works, 315 E. 28th (see
add p. 31)
Lyon, W. E. 202 E. 46th (see add p. 46)
Muhl, J. & Son, 329 E. 33d (see add p. 50)
Pitt, William R. Composite Iron Works, 83
Reade
Post & McCord, 102 Broadway (see add p.
33)
Prince & Kinkel Iron Works, The, 729-731
First av (see add p. 51)
Richey, Brown & Donald, 218-224 No. 11th,
20-22 Roebling, Brooklyn (see add p. 47)
Stuetzer, H. & Co. 474-494 Leonard &
49-61 Van Pelt av, Brooklyn, 39 Dey, N. Y.
city (see add p. 40)
Williams, John, 544-556 W. 27th (see add p.
36)
Yale Safe & Iron Co. 331 Madison av

IRON ELEVATOR FRONTS AND GRILLE WORK.

Ætna Iron Works, 298-300 E. 64th (see add
p. 51)
Althause, S. B. & Co. 101-103 Thompson (see
add p. 27)

Carrere & Haas Iron Works, Lincoln bldg.
1-3 Union sq c 14th
Central Iron Works, 203 E. 30th (see add
p. 44)
Cook & Radley, 214-220 E. 37th
Cornell, J. B. & J. M. 141 Centre, 26th street
Tenth and Eleventh avs (see add pp. 35,
37, 39)
DeWitt Wire Cloth Co. 32 Reade (see add
p. 26)
Estey, W. S. 65 Fulton (see add p. 24)
Hafers, Chris. 407 W. 37th (see add p. 34)
Hecla Architectural Bronze and Iron Works,
Poulson & Eger, Pulitzer bldg. show rooms
48-51 (see add p. 28)
Howard & Morse, 45 Fulton (see add p. 5)
Jackson Architectural Iron, Works, 315 E.
28th (see add p. 31)
Luetke, Oscar, 662-668 Hudson (see add opp.
Ninth Ward)
Lyon, W. E. 202 E. 46th (see add p. 46)
Muhl, J. & Son, 329 E. 33d (see add p. 50)
Phoenix Iron Co. Wm. H. Gulick, contracting
agt. 10 W. 23d
Pitt, W. R. Composite Iron Works, 83 Reade
Post & McCord, 102 Broadway (see add p. 33)
Prince & Kinkel Iron Works, The, 729-731
First av (see add p. 51)
Richey, Brown & Donald, 218-224 N. 11th,
and 20-22 Roebling, Bklyn. (see add p. 47)
Springfield Foundry Co. Springfield, Mass.
(see add p. 16)
Stuetzer, H. & Co. 474-494 Leonard, 49-61
Van Pelt av. Bklyn. 39 Dey (city) (see add
p. 40)
Williams, John, 544-556 W. 27th (see add
p. 36)
Yale Safe & Iron Co. 331 Madison av

IRON FIRE ESCAPES, ORNAMENTAL AND PLAIN.

Etna Iron Works, 298-300 E. 64th (see add
p. 51)
Althause, S. B. & Co. 101-103 Thompson (see
add p. 27)
Bowes, John J. 227-229 W. 29th (see add
p. 43)
Carrere & Haas Iron Works, Lincoln bldg,
1-3 Union sq cor. 14th
Central Iron Works, 203 E. 30th (see add
p. 44)
Cook & Radley, 214-220 E. 37th
Cornell, J. B. & J. M. 141 Centre, 26th street
Tenth and Eleventh avs. (see add pp. 35,
37, 39)
Estey, W. S. 65 Fulton (see add p. 24)
Grimm, Richard, 432 E. 18th (see add p. 48)
Hafers, Chris. 407 W. 37th (see add p. 34)
Hecla Architectural Bronze and Iron Works,
Poulson & Eger, Pulitzer bldg. show rooms
48-51 (see add p. 28)
Howard & Morse, 45 Fulton (see add p. 5)
Jackson Architectural Iron Works, 315 E.
28th (see add p. 31)

Lyon, W. E. 202 E. 46th (see add p. 46)
Marren's, Jos. Sons, 157 E. 41th
Muhl, J. & Son, 329 E. 33d (see add p. 50)
Phoenix Iron Co. 10 W. 23d
Pitt, William R. Composite Iron Works, 83
Reade
Post & McCord, 102 Broadway (see add p. 33)
Prince & Kinkel Iron Works, 729-731 First
av (see add p. 51)
Richey, Brown & Donald, 218-224 N. 11th,
and 20-22 Roebling, Bklyn. (see add p. 47)
Stuetzer, H. & Co. 474-494 Leonard, 49-61
Van Pelt av. Bklyn. 39 Dey (city) (see add
p. 40)
Westing, Theo. 449-455 W. 41st

IRON FIRE SETS AND UMBRELLA STANDS.

Boote, Alfred, 1567 Broadway
Conover, J. S. & Co. 28-30 W. 23d (see add
p. 85)
Cornell, J. B. & J. M. 141 Centre, 26th st.
Tenth and Eleventh avs. (see add pp. 35,
37, 39)
Empire Metal Working Co. 76 Fifth av
Fiske, J. W. 39 Park pl
Hecla, Architectural Bronze and Iron Works,
Poulson & Eger, Pulitzer bldg. show rooms
48-51 (see add p. 28)
Howard & Morse, 45 Fulton (see add p. 5)
Jackson Architectural Iron Works, 315 E.
28th (see add p. 31)
Jackson, Wm. H. & Co. 29 E. 17th (see add
p. 84)
Kirtland, Andrews & Co. 46-48 Union sq c
17th (see add p. 83)
Luetke, Oscar, 662-668 Hudson (see add op-
posite Ninth Ward)
Marren's, Jos. Sons, 157 E. 44th
Post & McCord, 102 Broadway (see add p. 33)
Pries, W. H. 434 Canal, 6 Vestry
Prince & Kinkel Iron Works, 729-731 First
av (see add p. 51)
Stuetzer, H. & Co. 474-494 Leonard, 49-61
Van Pelt av. Bklyn. 39 Dey (city) (see add
p. 40)
Williams, John, 544-556 W. 27th (see add p.
36)

IRON FOLDING GATES AND WINDOW GUARDS.

Etna Iron Works, 298-300 E. 64th (see add
p. 51)
Althause, S. B. & Co. 101-103 Thompson (see
add p. 27)
Bataille, Achille, 122 W. Broadway (see add
p. 23)
Carrere & Haas Iron Works, Lincoln bldg, 1-
3 Union sq. cor. 14th

Central Iron Works, 203 E. 30th (see add p. 44)
 Cook & Radley, 214-220 E. 37th
 Cornell, J. B. & J. M. 141 Centre, 26th st. Tenth and Eleventh avs (see add. pp. 35, 37, 39)
 Economy Foundry Co. 114 Liberty, Geo. H. Raymond, manager (see add p. 19)
 Estey, W. S. 65 Fulton (see add p. 24)
 Fiske, J. W. 39 Park pl
 French, J. C. & Son, 155 W. Broadway (see add p. 47)
 Hafers, Chris. 407 W. 37th (see add p. 34)
 Hecla Architectural Bronze & Iron Works, Poulson & Eger, Pulitzer bldg, show rooms 48-51 (see add p. 28)
 Howard & Morse, 45 Fulton (see add p. 5)
 Jackson, W. H. & Co. 29 E. 17th (see add p. 84)
 Lyon, W. E. 202 E. 46th (see add p. 46)
 Marren's, Jos. Sons, 157 E. 44th
 Morse, Williams & Co. 108 Liberty (see add p. 11)
 Muhl, J. & Son, 329 E. 33d (see add p. 50)
 Pitt, The William R. Composite Iron Works, 83 Reade
 Post & McCord, 102 Broadway (see add p. 33)
 Prince & Kinkel Iron Works, 729-731 First av (see add p. 51)
 Stuetzer, H. & Co. 474-494 Leonard, 49-61 Van Pelt av. Bklyn. 39 Dey (city) (see add p. 40)
 Williams, John, 544-556 W. 27th (see add p. 36)

IRON FURNITURE.

Bent, Samuel & Son (lawy) 111 Chambers
 Biberthaler, John, 49 Ridge
 Bohsert, Fred. (chairs) 387 Bowery
 Bradley & Hubbard Mfg. Co. (fire-place) 21 Barclay and 26 Park pl
 Cornell, J. B. & J. M. 141 Centre, 26th st. Tenth and Eleventh avs (see add pp. 35, 37, 39)
 Fiske, J. W. 39 Park pl
 Hecla Architectural Bronze and Iron Works, Poulson & Eger, props. Pulitzer bldg. show rooms 48-51 (see add p. 28)
 Howard & Morse, 45 Fulton (see add p. 5)
 Jackson Architectural Iron Works (opera chairs) 315 E. 28th (see add p. 31)
 Koch, Wm. (bedsteads) 165 Orchard
 Mark's Adjustable Folding Chair Co. Ltd. (adjustable chairs) 930 Broadway
 McLean, John (cemetery) 298-300 Monroe
 National Wire Mattress Co. (bedsteads) 20 E. 14th
 New York Brass Furniture Co. 39 Union sq
 Pries, W. H. 434 Canal and 6 Vestry
 Schlesinger's John, Sons, 145 Elm
 Westervelt, A. B. & W. T. 102 Chambers (see add p. 203)
 Wilson & Barnard (adjustable chairs) 823 Broadway

IRON, GALVANIZED.

Abendroth & Root Mfg. Co. 28 Cliff (see add p. opp. Key to Ward Maps)
 Bent, Samuel S. & Son, 111 Chambers
 Clinton Wire Cloth Co. 76 Beekman, George E. Howard, agt
 Fiske, J. W. 39 Park pl
 Gilbert, Bennett Mfg. Co. 42 Cliff
 Hafers, Chris. 407 W. 27th (see add p. 34)
 Hepe, Koven & Co. 18 Spruce
 Ironclad Mfg. Co. 22 Cliff
 Jersey City Galvanizing Co. The, 28 Platt
 Joehum & Jetter, 148 E. 50th (see add p. 69)
 Ledferts, Marshall & Co. 491-503 Cherry and 100 Beekman
 Lyon, W. E. 202 E. 46th (see add p. 46)
 McLean, John, 298-300 Monroe
 Merry, John & Co. 535-547 W. 15th and 32-36 Eleventh av (see add p. 66)
 Mullaps, William H. 108 Chambers, Julius T. Wagner, agt
 Nelson, O. 295 Pearl
 N. Y. Iron Roofing and Corrugating Co. 29 Broadway (see add p. 51)
 Peck, Stowe & Wilcox Co. 27 Chambers
 Post & McCord, 102 Broadway (see add p. 33)
 Schwoerer, J. 8 E. 2d (see add p. 142)
 Torry Roller Bushing Works, 94 John
 Trageser, John, Steam Copper Works, 447-457 W. 26th (see add p. 111)
 Washburn & Moen Mfg. Co. 16 Cliff and 241 Pearl
 Wilcox, Crittenden & Co. 33 South
 Wright Wire Cloth Co. 52 Fulton

IRON GRATES AND FIRE PLACE FITTINGS.

Bataille, Achille, 122 W. Broadway (see add p. 23)
 Boote, Alfred, 1567 Broadway
 Brooklyn Slate Mantel Co. 803 Monroe, Bklyn. and 1114 Park av. N. Y. City (see add p. 81)
 Conover, J. S. & Co. 28-30 W. 23d (see add p. 85)
 Dale Tile Mfg. Co. Ltd. 398 Broome (see add p. 49)
 Davis, Reed & Alexander, 18 E. 15th and 1 W. 34th
 Howden & Fish, Chelsea Hotel bldg, 216-218 E. 23d (see add p. 77)
 Jackson, Edwin A. & Brother, 50 Beekman
 Jackson, Wm. H. & Co. 29 E. 17th (see add p. 84)
 Jackson's, W. Sons, 216 Front
 Kirtland, Andrews & Co. Ltd. 46-48 Union sq c 17th (see add p. 83)
 Luetke, Oscar, 632-668 Hudson (see add p. opposite Ninth Ward)
 Nichols, A. S. & Co. 111 E. 128th and 108 E. 129th

Prince & Kinkel Iron Works, 729-731 First av
(see add p. 51)
Traitel Bros. 499 Fifth av (see add p. 82)
Williams, John, 544-556 W. 27th (see add
p. 36)

IRON LAMP POSTS, ORNA- MENTAL.

Ætna Iron Works, 298-300 E. 64th (see add
p. 51)
Althause, S. B. & Co. 101-103 Thompson (see
add p. 27)
Carrere & Haas Iron Works, Lincoln bldg.
1-3 Union sq e 14th
Cheney & Hewlett, 38 Park row (see add
p. 41)
Cook & Radley, 214-220 E. 37th
Cornell, J. B. & J. M. 141 Centre, 26th st,
Tenth and Eleventh avs (see add pp. 35,
37, 39)
Drummond, M. J. 192 Broadway
Economy Foundry Co. 114 Liberty, Geo. H.
Raymond (see add p. 19)
Fiske, J. W. 39 Park pl
Fox, John, 160 Broadway
Hafers, Chris. 407 W. 37th (see add p. 34)
Hecla Architectural Bronze & Iron Works,
Poulson & Eger, Pulitzer bldg. show rooms
48-51
Gleason, E. P. Mfg. Co. 20 W. Houston
Grimm, Richard, 432 E. 18th (see add p. 48)
Jackson Architectural Iron Works, 315 E. 28th
(see add p. 31)
Luetke, Oscar, 662-668 Hudson (see add op-
posite Ninth Ward)
Lyon, W. E. 202 E. 46th (see add p. 46)
Miner, Jacob G. 823 Eagle av
Mott, J. L. Iron Works, 88-90 Beekman
Muhl, J. & Son, 329 E. 33d (see add p. 50)
Pitt, The William R. Composite Iron Works,
83 Reade
Post & McCord, 102 Broadway (see add p. 33)
Riehey, Brown & Donald, 218-224 N. 11th,
and 20-22 Roebling, Bklyn. (see add p. 47)
Stuetzer, H. & Co. 474-494 Leonard, 49-61
Van Pelt av Bklyn. 39 Dey (city) see add
p. 40)
United States Lighting and Ventilating Co.
24 W. Fourth
Westervelt, A. B. & W. T. 102 Chambers (see
add p. 203)
Westing, Theo. 449-455 W. 41st
Williams, John, 544-556 W. 27th (see add
p. 36)

IRON MFRS.

Akron Iron Co. 206 Fulton
Alleghany Iron Co. 29 Broadway
Allentown Iron & Machine Co. 95 Nassau
Anglo-American Iron & Metal Co. 96 John
Bartlett, M. S. 52 Wall
Bethlehem Iron Co. 80 Broadway

Bigelow & Co. The, 15 Cortlandt
Blandon Rolling Mill Co. Ltd. 112 John
Bookwalter Steel & Iron Co. 110 Liberty
Boonton Brass and Iron Co. 9 Cliff
Bower-Barff Rustless Iron Co. 31 Nassau and
75 Cedar
Butler, Cyrus, 24 Cliff
Cambria Iron Co. 29 Broadway
Carbon Iron Co. 35 Wall
Carnegie, Phipps & Co. Ltd. 44-46 Wall
Catasauqua Mfg. Co. 192 Broadway
Central Forge Works, 54 William
Central Iron Works, 203 E. 30th (see add p. 44)
Cheney & Preyer, 21 Park row
Chestnut Hill Iron Ore Co. 52 Wall
Cleveland Rolling Mill Co. 24 Cliff
Collins, H. E. & Co. 29 Broadway
Columbia Iron & Steel Co. 81 Fulton
Columbus & Hocking, Coal Co. 80 Broadway
Cook, Francis, 407 W. 36th
Cooper, Hewitt & Co. 17 Burling sl
Corning, Edward & Co. 29 Broadway
Crocker Bros. 32 Cliff
Daniel, George, 63 Park row
Delaney Forge & Iron Co. 112 John
Diamond State Iron Co. 11 Pine
Diefenbach, L. & M. Nussberger, 103 Bayard
Eckstein, Charles G. & Co. 41 John
Edison Ore Milling Co. Ltd. 44 Broad
Empire Manganese & Iron Co. 115 Broadway
Eric City Iron Works, 9 Dey
Fairclance Furnace Co. 111 Broadway
Farnley Iron Co. Ltd. 20 E. 23d
Froment, Frank L. 112 John
Furnaceville Iron Co. 41 Wall
Gates Iron Works, 12 Cortlandt
Hafers, Christian, 497-410 W. 37th (see add p.
34)
Harlem River Iron & Mach. Works, 462 E. 136th
Hercules Iron Works, 150 Broadway
Hill Clutch Works, 15 Cortlandt
Hornellsville Machine Works, 115 Broadway
Hull, George H. & Co. 44 Wall
Hydrogen Co. (of N. J.) 35 Broadway
Iron Reduction Co. 35 Wall
Jefferson Iron Co. 80 Broadway
Johnson Brothers, 215 Grand
Lefferts, Marshall & Co. 491-503 Cherry
Lehigh Zinc & Iron Co. 112 John
Leonard, John, 448-452 West
Lincoln Iron Works, 192 Broadway
Low-Moor Iron Co. (of Va.) 31 Burling sl
Lyles & Mills, 231 William
McConway & Torley Co. 72 William
McDaniel & Harvey Co. 284 Pearl
Magnetic Iron Ore Co. 12 Broadway
Marshall Iron Co. 112 John
Merry, John & Co. 535-547 W. 15th (see add p.
66)
Meyer & Stock, 681 First av
Minnesota Iron Co. 15 Broad
Mohawk Furnace Co. 206 Broadway
Moorhead, McCleane Co. 81 John
Nashua Iron & Steel Co. 171 Broadway
National Hollow Brake Beam Co. 29 Broadway
Naylor & Co. 48 Wall
New Birmingham Iron and Land Co. 47 Broad-
way
N. J. Steel & Iron Co. 17 Burling sl
New Jersey & Pa. Concentrating Works, 44
Broad
New River Mineral Co. 9 Cliff

New York Concentrating Works, 44 Broad
 Nottingham Iron & Land Co. 30 Broad
 Oliver Brothers & Phillips, Henry B. Newhall
 & Co. Agents, 105 Chambers
 Pancoast & Rogers, 28 Platt and 15 Gold
 Passaic Rolling Mill Co. 45 Broadway
 Peoples' Iron Works, 276-277 West
 Philadelphia & Reading Coal and Iron Co. 1
 Broadway
 Pottstown Iron Co. 29 Broadway
 Poughkeepsie Iron Co. 69 Wall
 Rossie Iron Works, 3 Broad
 Schlesinger Brothers, 45 Wall
 Scidel & Hastings Co. 183 Christopher
 Shelby Iron Co. 80 Broadway
 Stetson, George W. & Co. 69 Wall
 Stevenson, Thomas F. 95 Liberty
 Stroud & Co. 104 John
 Taylor Iron Works, 143 Liberty
 The Kelly & Jones Co. 104 John
 The Principo Furnace & Rolling Mill Co. 181
 Broadway
 Thomas Iron Co. 52 Wall
 Thompson Mfg. Co. 81-83 Fulton
 Tilford, George E. 518 W. 22d
 Tredegar Co. The. 47 Broadway
 Trenton Iron Co. 17 Burling st
 Union Iron Works, Aldrich Court, 45 Broad-
 way
 Wallis Iron Works, 7, 9, 11, 13 and 15 Morris
 st. Jersey City, New York Office, 95 Liberty
 (see add p. 38)
 Walton, The, Arch. Iron Co. 115 Broadway
 Wellman Iron & Steel Co. 7 Nassau
 Wells Rustless Iron Co. The, 21 Cliff
 Whitaker Iron Co. 81 Fulton
 Whiting, Augustus H. 468 Cherry
 Whitney, A. R. & Co. 29 Broadway
 Wines, Wm. D. 44 Centre
 Yale Safe & Iron Co. 90 Nassau

IRON MERCHANTS.

Abbott, Jere & Co. 23 Cliff
 Abeel Brothers, 190 South and 365 Water
 Adams, Hugh W. & Co. 56 Pine
 Adams, Henry H. & Co. 177 Broadway
 Bartlett, N. S. & Co. 52 Wall
 Belmont Bessemer Ore Co. Ltd. 29 Broadway
 Bleecker, James, jr. 149 Broadway
 Carpenter, John O. 390 Hudson
 Chace, Charles T. G. 445 West
 Cooney, Daniel F. 88 Washington
 Cornell, Hiscox & Underhill, 13 Gold
 Corning, Edward & Co. 29 Broadway
 Crane, U. O. & Co. 74 Wall
 Crocker Brothers, 32 Cliff
 Cunningham, Jos. L. 102 Chambers
 Danna & Co. 57 William
 Danvers, Robert E. 430 E. 18th
 Day, Elias T. 192 Broadway
 Donnelly, Samuel & Co. 419 E. 22d
 Eggleston Brothers & Co. 166 South and 267
 Front
 Eidlitz, Leopold, jr. 128 Broadway
 Ely & Williams, 38 Park row
 Ennis & Co. 60 New
 Foote, Cleveland, 47 Broadway
 Froment, Frank L. 112 John
 Fuller Brothers & Co. 139 Greenwich

Gibbs, George W. & Co. 146 Broadway
 Gleason, Charles W. & Co. 32 Liberty
 Hall, H. F. & Co. 284 Pearl
 Hazard, Theophilus D. 80 Wall
 Hensheim, L. 29 Broadway
 Hopper, Henry J. 245 Broadway
 Hubbard, Charles & Co. 284 Pearl
 Hull, George H. & Co. 71 Broadway
 Jackson, Joseph H. 206 Franklin
 Judson, Benj. F. 457 Water and 233 South
 Keiper, Samuel M. 62 Liberty
 Kennedy, G. H. & Co. 10 James st
 Lee, James & Co. 72 Pine
 Lefferts, Marshall & Co. 100 Beekman and 495
 Cherry
 Lilienberg, Nils, 150 Broadway
 Long's, John S. Sens & Co. 4 Fletcher
 Loughrey, William P. 81 John
 Low, George H. 102 Chambers
 Lurkens, L. N. Iron & Steel Co. 103 Front
 Lyman, Frank, 130 Water
 McCullough Iron Co. 284 Pearl
 McDaniel & Harvey Co. 284 Pearl
 McKenna, Thomas J. 192 Broadway
 Macintosh, C. 284 Pearl
 Merry, John & Co. 539 W. 15th (see add p. 66)
 Miller & Brewer, 83 Maiden la
 Miller, Slosson Scott, 280 Broadway
 Milliken Brothers, 55 Liberty
 Milne, A. & Co. 1 Broadway
 Moffat, Frank D. & Co. 83 Fulton
 Naylor & Co. 45 Wall
 New River Mineral Co. 9 Cliff
 O'Day & Williams, 545 Washington
 Ogden & Wallace, 85 Elm

OCDEN & WALLACE,

Importers of and Dealers in

IRON & STEEL

OF EVERY DESCRIPTION.

85, 87, 89 & 91 ELM STREET, N. Y.

Oxford Iron & Nail Co. 81-85 Washington
 Page, Newell & Co. 17 Broadway
 Pancoast & Rogers, 28 Platt and 15 Gold
 Penn Iron Co. 11 Wall
 Perkins, C. Lawrence, 3 Cotton Ex
 Perkins, Frank P. 52 Broadway
 Persons, C. L. & Co. 16 Exchange pl
 Pierson & Co. 24 West
 Post, John, 162 W. 21st
 Quincy, John W. & Co. 98 William
 Rancey & Bergen, 80 Broadway
 Richards, Daniel W. 92 Mangin
 Richards, J. J. & Co. 276 W. 25th
 Robertson, Robert, 59 Wall
 Runkle William, 160 Broadway
 Schlesinger Brothers, 48 Wall
 Sel, Benjamin, 96 Division
 Spanish American Iron Co. 36 Wall
 Sprowers, W. H. & Co. 20 West
 Stiles, Thomas W. & Co. 130 Water
 Striffler, C. & Co. 674 Ninth av. and 548 W. 48th
 Tennessee Coal, Iron & R. R. Co. 49 Broadway
 Thomas, W. R. 52 Wall
 Thomas Iron Co. 52 Water
 Todd, John H. L. 67 William
 Turnbull George, 1 Beaver
 Vought & Williams, 365 Greenwich
 Wallace William H. & Co. 131 Washington

Iron Pipe, Galvanized

Wardwell, R. P. & Co. 6 Harrison
 Warren, Wood & Co. 29 Broadway
 Weir, Rogers & Co. 45 Broadway
 Whiteley, Spowers & Co. 20 West
 Whitney, Charles W. 83 Fulton
 Whitney, A. R. & Co. 29 Broadway
 Whittemore, H. & Co. 62 William
 Williamson, James & Co. 63 Wall
 Winckle, Elmer E. 136 Liberty
 Witherbees, Sherman & Co. 46 Wall
 Wood, George R. 53 Broadway
 Woodruff, Frank H. & Co. 24 Frankfort

IRON ORE.

Adams, Henry H. 177 Broadway
 American Metal Co. The, 80 Wall
 Bell, William & Co. Produce Ex
 Belvidere Iron Ore Co. 13 Park row
 Chateaugay Ore & Iron Co. 21 Cortlandt
 Chestnut Hill Iron Ore Co. 52 Wall
 Conley Iron Co. Produce Ex
 Cooper, Hewitt & Co. 17 Burling st
 Crocker Brothers, 32 Cliff
 Crown Point Iron Co. Works, 21 Cortlandt
 Foote, Emerson, 40 Broadway
 Goodwin, Robert N. 104 John
 Hogan & Burr, 45 Broadway
 Hudson River Ore & Iron Co. 21 Cortlandt
 Hunt, C. W. Co. 45 Broadway
 Magnetic Iron Ore Co. 12 Broadway
 Marvel, Wm. D. & Co. 111 Broadway
 Naylor & Co. 99 John
 Strond & Co. 104 John
 Witherbees, Sherman & Co. 44 and 46 Wall

IRON PIPE, GALVANIZED.

Abendroth & Root, 28 Cliff (see add opposite
 Key to Ward Maps)
 American Tube & Iron Co. 98 John
 Blessing, Geo. A. 250 Pearl (see add p. 110)
 Jamer, Jacob, 84 John
 Keating, Edward F. 75 John
 Lyon, W. E. 202 E. 46th (see add p. 46)
 McShane, Henry, Mfg. Co. 625-627 Sixth av (see
 add p. 108)
 McNab & Harlin Mfg. Co. 56 John
 Nason Mfg. Co. 71 Beekman
 National Pipe Bending Co. 15 Cortlandt
 National Tube Works Co. 160 Broadway
 Oil City Tube Co. 32 Cortlandt
 Pancoast & Rogers, 28 Platt
 Roberts, Geo. I. & Bros. 471-473 Fourth av (see
 add pp. 62, 63)
 Simmons, John Co. 110 Centre
 Spiral Weld Tube Co. 43 John

**IRON PIPE AND FITTINGS,
MFRS.**

Abendroth & Root, 28 Cliff (see add opp. Key
 to Ward Maps)
 American Tube & Iron Co. 98 John

Barr, Edward Co. (Ltd.) (wholesale) 78 John
 Bell Armistead Mfg. Co. 140 Centre
 Bird, W. E. & Co. 35 Dey
 Blakshie, E. G. Mfg. Co. 78 Centre
 Blessing, George A. & Co. (mfrs. soil pipe
 and fittings) 290 Pearl (see add p. 110)
 Burtis, Morse, 52 John
 Campbell, Felix, 79 John
 Carr, A. & W. S. Co. 141 Centre
 Colton, Fred'k W. (mfr. pipe) 12 Cliff
 Cook, R. K. 48 Centre
 Crane & Co. 40 Wall
 Curtis & Co. 140 Centre
 Dame & Townsend Co. 76 John
 Dimock, Fink & Co. 80 John & 214-216 E.
 125th
 Donagan & Swift, 11 Murray
 Donaldson Iron Co. (mfrs.) 1 Broadway
 Drummond, Michael J. 192 Broadway
 Dumbarton Iron Works, 167 Charles
 Dunham, Carrigan & Hayden Co. 107 Cham-
 bers
 Eaton, Cole & Burnham Co. (mfrs. fittings-)
 82-84 Fulton
 Fisher, John J. (mfr.) 91 Liberty
 Fox, John, 160 Broadway
 Froment, Frank L. 445 West
 Gilbert & Barker Mfg. Co. 90 John
 Holloway, Edwin, 110 White
 Jamer, Jacob, 84 John
 Kay, Wm. H. 36 Dey
 Keating, Edward F. (wholesale dealer) 75
 John
 Keller, E. J. 117 Walker
 Leonard & McCoy, 118 Liberty
 Lukins, L. N. & W. H. 22 Gold
 Mayor, Lane & Co. (wholesale dealers) 119
 Walker & 161 E. 54th
 McCann, T. R. & Bro. 56-60 Gold
 McMann, 60 Gold
 McNab & Harlin Mfg. Co. 56 John
 McNeal Pipe & Foundry Co. (mfrs. cast pipe)
 52 Wall
 McShane, Henry, Mfg. Co. 625-627 Sixth av
 (see add p. 108)
 Mellert Foundry & Machine Co. (Ltd.) 160
 Broadway
 Metropolitan Iron Works (wholesale) 304 E.
 95th
 Moffatt, Frank D. & Co. 81-83 Fulton
 Monitor Iron Works, 78 Centre
 Mott, J. L. Iron Works, 88 Beekman
 Nason Mfg. Co. 71 Beekman
 National Conduit Mfg. Co. 42 Park row
 National Pipe Bending Co. 15 Cortlandt
 National Tube Works Co. 160 Broadway
 Oil Tube Works Co. 32 Cortlandt
 Pancoast & Rogers, 28 Platt & 15 Gold
 Partridge, William T. & Co. 128 Broadway
 Patent Water & Gas Pipe Co. 41 Dey
 Pennsylvania Tube Works, 37 Platt
 Pierce, Chas. D. 127 Pearl
 Ransom & Co. (wholesale) 94-96 Centre
 Reading Foundry Co. (Ltd.) 160 Broadway
 Riverside Iron Works (pipe) 140 Centre
 Seery, James F. 449 E. 150th

Simmons, John, 106-110 Centre
Spiral Weld Tube Co. 43 John
Tweedy, E. F. 32 Church
Urquhart, John S. (wholesale dealer) 46 Cort-
landt
Walworth Mfg. Co. 54 Gold
Warren Foundry & Machine Co. 160 Broad-
way
Wells Rustless Iron Co. 52 John
Wells & Coutan Co. 78 John
Whitney, A. R. & Co. 29 Broadway

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Between 154th and 155th Sts., NEW YORK.

Fire Escapes, Awning Frames & Iron Work in General.
Jobbing of all Kinds Promptly Attended to.

Ahr, Henry, 698 E. 148th
Alexander, W. J. & C. C. 3 York
Althaus, S. B. & Co. 101-103 Thompson (see
add p. 27)
Anchor Post Co. 59 W. 42d
Aronowitz, Louis, 237 Broome
Bayer & Scherbrier, 453 W. 41st
Beam, Martin R. 1708 Lexington av
Belmont Iron Works, 95 Nassau
Bowes, John J. 227-229 W. 29th (see add p.
43)
Brady & Hauptmann, 707 First av
Brandell, Henry, 629 E. 16th
Buellesbach Bros. 366 Third
Burrows & Smith, 307 E. 122d
Bushmann & Steber, 13 Cannon
Carlin, Luke, 313 W. 40th
Carrere & Haas Iron Works, Lincoln bldg. 1-3
Union sq
Central Expanded Metal Co. 67 Reade J. K.
Combs, Manager (see add p. 114)
Central Iron Works, 203 E. 30th (see add p.
44)
Cheney & Hewlett, Potter bldg. 38 Park row
(see add p. 41)
Cheney & Preyer, 21 Park row
Clark, Joseph, 754 Seventh av
Clark, Bunnett & Co. 162-164 W. 27th (see
add p. 45)
Clausen & Hoffmeyer, 227 Sixth av
Cochranes, John S. Sons, 195 S. Fifth av
Cornell, J. B. & J. M. 141 Centre, 26th st.
Tenth & Eleventh avs (see add pp. 35, 37, 39)
Cook & Radley, 212-220 E. 37th
Curry, William, 553 W. 54th
Darmstadt, Francis, 306 E. 93d
Day, William T. 116 Wooster
Dimond, J. G. & T. 209-211 W. 33d
Duclay, J. M. 19 Broadway
Dudley, Wm. 142 W. 10th

Empire Iron Works, 518-520 W. 22d
Fiske, J. W. 39 Park pl
Fleck, M. 442 Pleasant av
Fotheringham, Geo. & Son, 350 W. 18th
Frausmann, John, 402 E. 105th
Freyer, W. J. 19 Broadway
Grimm, Richard, 432 E. 18th (see add p. 48)
Hafers, Chris. 407 W. 37th (see add p. 34)
Happel, Adam, 198 Broome
Hecla Architectural Bronze & Iron Works,
Poulson & Eger, Pulitzer bldg. show rooms
48-51 (see add p. 28)
Heinzer, John, 171 Suffolk
Herman, Gustav P. 688 Eleventh av
Howells, M. H. Sons, 369 W. 11th
Hunter, T. & J. 419 E. 91st
Jackson Arch. Iron Works, 315 E. 28th (see
add p. 31)
Johnson Bros. 215 Grand
Levering & Garrigues, 41 World bldg.
Lieberman, Schulz & Benesaraf, 258 Eleventh
av
Lindsay, W. A. 61 Warren
Luetke, Oscar, 662-668 Hudson (see add oppo-
site Ninth Ward)
Lyon, W. E. 202 E. 46th (see add p. 46)
McCaffery, W. H. & J. J. 618 W. 25th
McDougall & Potter, 606 W. 55th
McGuinness, E. & Co. 360 E. 76th
Marren's, Jos. Sons, 157 E. 44th
Mergenthauer, John, 343 W. 44th
Meyer & Stock, 680 First av
Moeslein, Valentine, 420 E. 48th
Muhl, J. & Son, 329 E. 33d (see add p. 50)
Murray, Peter, 139 W. 19th

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FIRE ESCAPES, SHUTTERS, &c.
139 WEST NINETEENTH ST.,
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Nichols, Samuel & Son, 66 W. 3d
Nuhn & Strohacker, 227 Sixth
Oltarsh, Wolf, 8 Eldridge
Palmer, Benjamin, 231 W. 50th
Palmer, Harris, 549 W. 34th
Perelson, L. & Son, 16 W. 3d
Pitt, R. W. Composite Iron Works, 83 Reade
Prince & Kinkel Iron Works, 729-731 First
av (see add p. 51)
Rapp, John W. 317 E. 94th
Rees & Lorenze, 203 E. 30th (see add p. 44)
Richter, Louis H. 339 Broome
Richter, H. & Son, 190 Elm
Richl Bros. 306 E. 95th
Ries, Frederick, 22 Rivington
Rompe, John F. E. 161st & Walton av
Rosenzweig, Jos. 64 Clinton
Rueth & Bartolicus, 756 Greenwich
Schwatz & Massoth, 49 Sheriff
Schuback, John, 123 Horatio
Schultis, Herman, 2399 Eighth av
Siebold, Henry F. 209 E. 47th
Seeman, G. M. & Co. 2332 First av

Smith, Andrew, 447 Pleasant av
 Smullen & Dudley, 874 Westchester av
 Taubert, Albert, 243 W. 47th
 Taylor, James, 221 Mercer
 Thorp & Conlin, 1 Union sq
 Union Iron Works, The, 29 Broadway
 Vaughn, E. S. & Sons, 103 Maiden la
 Vreeland, Geo. A. 229 W. 36th
 Wagner, Adam, 22 Eldridge
 Weber, Jacob V. & Sons, 150 E. 25th
 Weidon, John, 56 Trinity pl
 Weldon, Patrick M. 34 Stone
 Westervelt, A. B. & W. T. 102 Chambers (see
 add p. 203)
 Westing, Theo. 449-455 W. 41st
 West Side Architectural Iron Works, 550-560
 W. 33d (see add p. 29)
 Williams, John, 544-556 W. 27th (see add p.
 36)
 Wilson, Jas. G. 74 W. 23d (see add p. 88)
 Yale Safe & Iron, 331 Madison av
 Zemskind, Louis, 111 Elizabeth

IRON REVOLVING SHUTTERS.

Althause, S. B. & Co. 101-103 Thompson (see
 add p. 27)
 Central Iron Works, 203 E. 30th (see add p. 44)
 Clark, Bunnett & Co. 162-164 W. 27th (see add
 p. 45)
 Cook & Radley, 214-220 E. 37th
 Cornell, J. B. & J. M. 141 Centre, W. 26th st.
 Tenth and Eleventh avs (see add pp. 35, 37,
 39)
 Dimond, J. G. & T. 209-211 W. 33d
 Hafers, Chris. 407 W. 37th (see add p. 34)
 Jackson Arch. Iron Works, 315 E. 28th (see
 add p. 31)
 Lindsey, W. A. 61 Warren
 Lyon, W. E. 202 E. 46th (see add p. 46)
 Muhl, J. & Son, 329 E. 33d (see add p. 50)
 Nichols, S. & Son, 66 W. 3d
 Stuetzer, H. & Co. 474-494 Leonard, 49-61 Van
 Pelt av, Brooklyn, 39 Dey, N. Y. city (see
 add p. 40)
 Union Iron Works, 29 Broadway
 Westing, Theo. 449-455 W. 41st
 Wilson, Jas. G. 14 W. 23d (see add p. 88)

IRON ROOF MFRS.

Bowes, John J. 227-229 W. 29th (see add p. 43)
 Cheney & Preyer, 21 Park row
 Corning, Edward & Co. 29 Broadway
 Dimond, J. G. & T. 209-211 W. 33d
 Hawkins, R. F. Iron Works, 91 Liberty
 Howell's, M. H. Sons, 369 W. 11th

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Every Description of Iron Work for Building Purposes.
 Iron Railings, Iron Doors, Shutters, Stairs, Sashes, Iron
 Roof Frames, and Corrugated Iron Roofing. Iron Bridges.
 Screw Bolts, Lag-Screws, Nuts and Washers.

Jackson Architectural Iron Works, 315 E. 28th
 (see add p. 31)
 Metropolitan Iron Works, 304 E. 95th
 Milliken Bros. 55 Liberty
 Moseley Iron Bridge and Roof Co. The, 7 Dey
 (see add p. 49)
 Mullins, W. H. 108 Chambers, J. T. Wagner,
 Agt.
 New York Iron Roofing and Corrugating Co.
 29 Broadway (see add p. 51)
 Northrop, Henry S. 30 Rose (see add opposite
 Fourth Ward)
 Pencoyd Bridge and Construction Co. 35
 Broadway
 Riverside Bridge and Iron Works, The, 18
 Broadway
 Thompson Mfg. Co. 81-83 Fulton
 Union Iron Works, The, 29 Broadway
 Wallis Iron Works, Corbin bldg. 192 Broadway
 (see add p. 38)
 West Side Architectural Iron Works, 550-560
 W. 33d (see add p. 29)

IRON SHELF BRACKETS.

Blessing, Geo. A. 290 Pearl (see add p. 110)
 Butler Hardware Co. 18 Warren
 Grimm, Richard, 432 E. 18th (see add p. 48)
 Hafers, Chris. 407 W. 37th (see add p. 34)
 Luetke, Oscar, 662-668 Hudson (see add oppo-
 site Ninth Ward)
 Westing, Theo. 449-455 W. 41st

IRON STABLE FITTINGS AND SUMMER HOUSES.

Abendroth Bros. 109-111 Beekman
 Aetna Iron Works, 298-300 E. 64th (see add p.
 51)
 Ayres, Abraham 506 W. 45th
 Bataille, Achille, 122 W. Broadway (see add p.
 23)
 Bent, S. S. & Son, 111 Chambers
 Butler Hardware Co. 18 Warren
 Carrere & Haas Iron Works, Lincoln bldg. 1-3
 Union sq. cor. 14th
 Dimond, J. G. & T. 209-211 W. 33d
 Economy Foundry Co. 114 Liberty, Geo. H.
 Raymond, Mgr. (see add p. 19)
 Estey, W. S. 65 Fulton (see add p. 24)
 Fiske, J. W. 39 Park pl
 Grimm, Richard, 432 E. 18th (see add p. 48)
 Hafers, Chris. 407 W. 37th (see add p. 34)
 Howard & Morse, 45 Fulton (see add p. 5)
 Jackson Architectural Iron Works, 315 E. 28th
 (see add p. 31)
 Lyon, W. E. 202 E. 46th (see add p. 46)
 Mott, J. L. Iron Works, 88 Beekman
 Pitt, William R. Composite Iron Works, 83
 Reade
 Post & McCord, 102 Broadway (see add p. 33)
 Prince & Kinkel Iron Works, 729-731 First av
 (see add p. 51)
 Stuetzer, H. & Co. 474-494 Leonard, 49-61 Van
 Pelt av, Brooklyn; 39 Dey, N. Y. City (see
 add p. 40)

Iron Vault Doors, Skylight Frames, Window Frames and Lintels.—Iron Wire Cloth Mfrs.

Westervelt, A. B. & W. T. 102 Chambers (see add p. 203)
Westing, Theo. 449-455 W. 41st
Wooley & Co. 63 Fulton
Yale Safe and Iron Co. 331 Madison av

IRON TANKS, ALL KINDS AND SHAPES.

Backus, Peter & Son, 133-135 W. 25th (see add p. 64)
Booth, Samuel, 543-545 W. 35th:

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SMOKE STACKS, &c.

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Cantere & Haas Iron Works, Lincoln bldg. 1-3 Union sq cor. 14th
Central Iron Works, 203 E. 30th (see add p. 44)
Collins Iron Works, ft. W. 21st
Cornell, J. B. & J. M. 141 Centre, W. 26th st. & Tenth & Eleventh avs (see add pp. 35, 37, 39)
Davis, J. B. & Son, 91 Liberty
Deeley, R. & Co. ft. W. 32d
Economy Foundry Co. 114 Liberty, Geo. H. Raymond, Mgr. (see add p. 19)
Fox, Geo. & Son, 509 W. 34th
Garrison W. C. Mfg. Co. 75 Warren
Hafers, Chris. 407 W. 37th (see add p. 34)
Hawkins, R. T. Iron Works, 91 Liberty
Helvig, H. A. J. 45 Fulton
Hepe, Koven & Co. 18 Spruce
Jarboes Sheet Iron Works, 519 E. 19th
Jochum & Jetter, 148 E. 50th (see add p. 60)
Mayer, Osear, 27 Fulton
Muhl, J. & Son 329 E. 33d (see add p. 50)
New York Oil Cabinet Co. 180-186 Cherry
Palmer, N. F. jr. & Co. 12th and Av. D
Phoenix Iron Co. 10 W. 23d
Pollock, Alexander, 15 Cortlandt
Prince & Kinkel Iron Works, 729-731 First av (see add p. 51)
Reisert, A. & F. Orth, 181 Prince, 122 Sullivan
Trageser, John, Copper Works, 447-455 W. 26th (see add p. 111)
Turl, John & Sons, 534 W. 28th

IRON VAULT DOORS, SKYLIGHT FRAMES, WINDOW FRAMES AND LINTELS.

Aetna Iron Works, 298-300 E. 64th (see add p. 51)
Althause, S. B. & Co. 101-103 Thompson (see add p. 27)
Bowes, John J. 227-229 W. 29th (see add p. 43)

Central Iron Works, 203 E. 30th (see add p. 44)
Cook & Radley, 214-220 E. 37th
Cornell, J. B. & J. M. 141 Centre, W. 26th st. & Tenth & Eleventh avs (see add pp. 35, 37, 39)
Dale Tile Mfg. Co. Ltd. 398 Broome (see add p. 49)
Grimm, Richard, 432 E. 18th (see add p. 48)
Hafers, Chris. 407 W. 37th (see add p. 34)
Howard & Morse, 45 Fulton (see add p. 5)
Jackson Architectural Iron Works, 315 E. 28th (see add p. 31)
Lyon, W. E. 202 E. 46th (see add p. 46)
Mark, Jacob, 7 Worth (see add p. 30)
Marren's, Jos. Sons, 157 E. 44th
Moseley Iron Bridge and Roof Co. 5-7 Dey (see add p. 49)
Muhl, J. & Son, 329 E. 33d (see add p. 50)
Phoenix Iron Co. 10 W. 23d, William H. Glick, Agt.
Post & McCord, 102 Broadway (see add p. 33)
Prince & Kinkel Iron Works, 729-731 First av. (see add p. 51)
Schwoerer, J. S. E. 2d (see add p. 142)
Wallis Iron Works, Corbin bldg. 192 Broadway (see add p. 38)
Westing, Theo. 449-455 W. 41st
West Side Architectural Iron Works, 550-560 W. 33d (see add p. 29)

IRON WIRE CLOTH MFRS.

Anderson, H. C. & Co. 148 W. Broadway
Bataille, Achille, 122 W. Broadway (see add p. 23)
Brooklyn Wire Cloth Works, 107 John
Clinton Wire Cloth Co. 76 Beekman, George E. Howard, Agt.
De Witt Wire Cloth Co. 32 Reade (see add p. 26)
Estey, W. S. 65 Fulton (see add p. 24)
Gilbert & Bennett Mfg. Co. 44 Cliff
Hopkins N. Y. Steam Wire Works, 90 W. Broadway
Howard & Morse, 45 Fulton (see add p. 5)
McMurray, Robert T. & Bro. 141-143 Centre (see add p. 25)
Washburn & Moen Mfg. Co. 16 Cliff and 241 Pearl
Williams Globe Wire Works, 85 Fulton
Wooley & Co. 61 Fulton

IRON WORK FOR BUILDINGS.

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Nos. 101 & 103 THOMPSON STREET
Near Prince Street, New York.

Plain and Ornamental Iron Work.

See Advertisement, page 27.

Architectural Wrought Iron Works, 433 Canal
and 48 Watts
Atlantic Iron Works, 706 E. 12th
Atlas Iron Works, Times Bldg. 41 Park row
Automatic Fire Shutter Co. 198 Broadway
Ayres, Abraham, 506 W. 45th
Bataille, Achille, 122 W. Broadway (see add
p. 23)

Beam, Martin R. 1708 Lexington av
Bowes, John J. 227-229 W. 29th (see add p. 43)
Burrows & Smith, 307 E. 122d
Cadwell & Peterson Mtg. Co. 97 Chambers
Cameron Iron Works, 182 Sixth av
Carlin, Luke, 313 W. 40th
Carrere & Haas Iron Works, Lincoln bldg. 1-3
Union sq. e 14th
Central Iron Works, 203 E. 30th (see add p. 44)
Cheney, George W. & Son, 447 E. 136th
Cheney & Hewlett, 38 Park row (see add p. 41)
Cheney & Preyer, 21 Park row
Clark, Jos., 754 Seventh av
Coldwell-Wilcox Co. 81 Fulton
Cook, Francis, 407 W. 36th
Cook & Radley, 214-220 E. 37th
Cooper, Hewitt & Co. 17 Burling slip
Cornell, J. B. & J. M. 141 Centre, W. 26th st,
Tenth and Eleventh avs (see add pp. 35, 37, 39)
Darmstadt, Emilie, 306 E. 93d
Davis, Kohler & Co. 310 E. 110th
Delves, Arnold, 310 E. 110th
Dimond, J. G. & T. 209-211 W. 33d
Dudley, Wm. 142 W. 10th
Eagle Iron Works, 125 Horatio and 527 West
Empire Iron Works, Geo. E. Tilford, prop.
554 W. 22d

Ferdon, Samuel B. 129 W. 31st
Fiske, J. W. 39 Park pl
Fotheringham G. & Son, r 350 W. 18th
Fransmann, John, 402 E. 105th
Fritz & Goldstein, 141 Elm

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WROUGHT IRON & BRASS WORK,
Artistic Gas Fixtures,
141 ELM ST., NEW YORK.
Ornamental and Architectural Iron Work a Specialty.
Grimm, Richard, 432 E. 18th (see add p. 48th)

Hafers, Chris. 407 W. 37th (see add p. 34)
Happel, Adam, 198 Broome
Hawkins, R. F. Iron Works 91 Liberty
Hecla Architectural Bronze and Iron Works,
Poulson & Eger, Pulitzer bldg. show rooms
48-51 (see add p. 28)
Heinzer, John, 171 Suffolk
Hermann, O. 688 Eleventh av
Hewlett & Hart, Sylvan pl n E. 120th
Howard & Morse, 45 Fulton (see add p. 5)
Hudson River Iron Works, 337-369 W. 11th
Jackson Architectural Iron Works 315 E. 28th
(see add p. 31)
Johnson Foundry and Machine Co. 118th and
Harlem River
Kantzmam, T. & W. 180 Grand
Levering & Garrigues, Civil Engineers and
Contractors, Pulitzer bldg. room 41
Lincoln Iron Works, The (hangers and anchors)
192 Broadway
Lindsay, W. A. 61 Warren

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Careful Attention Given to Alteration and Repairs to
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Luetke, Oscar, 662-668 Hudson (see add oppo-
site Ninth Ward)
Metropolitan Iron Works, 304 E. 95th
Moeslein, V. 420 E. 48th
Moffat, Frank D. & Co. 81-83 Fulton
Mohr, John A. 5 First
Moseley Iron Bridge and Roof Co. The, 5-7 Dey
(see add p. 49)
Muller, Jacob, 418-420 E. 62d (see add p. 52)
Mullins, W. H. 108 Chambers, J. T. Wagner,
agent
Murray, Peter, 139 W. 19th
New Jersey Steel and Iron Co. 17 Burling slip
Nichols, Samuel & Son, 66 W. 3d
Northrop, Henry S. (ceilings), 18 Rose (see add
opposite Fourth Ward)
Otterbein, Henry, 153 W. 29th

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Palmer, B. 231 W. 50th
Passaic Rolling Mill Co. 45 Broadway
Pencoyd Bridge and Construction Co. 35
Broadway
Pitt, William R. Composite Iron Works, 83
Reade
Post & McCord, 102 Broadway (see add p. 33)
Prince & Kinkel Iron Works, 729-731 First av
(see add p. 51)
Richter, H. & Sons, 190 Elm
Riener & Knechle, 418 W. 27th
Ries & Jansen, 22 Rivington
Riverside Bridge and Iron Works, The, 18
Broadway
Rooney, J. S. 27 Sullivan

Iron, Wrought Iron Fenders, &c.] 410 [Knobs, Door, Brass and Bronze.

Jack Chain Manufacturers.—Jack Screws.—Kalamine, Iron Clad Wood Work.—Kalamine, Sheet Iron Clad Window Frames, Sashes, Doors and Casings.—Kilns, Dry.

Salem Foundry and Machine Shop, 41 Dey (see add p. 17)

Schnatz & Massoth, 49 Sheriff

Schultis & Geiger, 2353 Second av

Smullen & Dudley, 810 Forest av

Sprowers, Wm. H. & Co. 20 West

Standing, Wm. 86 Ave. C

Stuetzer, H. & Co. 474-494 Leonard, 49-61 Van

Pelt av. Bklyn. 39 Dey (city) (see add p. 40)

Thorp & Conlin, Lincoln bldg. 1-3 Union sq. c 14th

Toner, Edward A. 166 W. 18th

Trenton Iron Co. 17 Burling slip

Union Iron Works, The, 29 Broadway

Vreeland, G. A. 229 W. 36th

Wallace, William H. & Co. 131 Washington

Westervelt, A. B. & W. T. 102 Chambers (see add p. 203)

West Side Architectural Iron Works, 550-560 W. 33d (see add p. 29)

Westing, Theo. Iron Works, 449-455 W. 41st

Whitney, A. R. & Co. 29 Broadway

Wines, Wm. D. 44 Centre

Wood, George R. 53 Broadway

Yale Safe and Iron Co. 331 Madison av

Zemskind, L. 111 Elizabeth

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Boote, Alfred, 1567 Broadway

Conover, J. S. & Co. 28-30 W. 23d (see add p. 85)

Fiske, J. W. 39 Park pl

Hecla Architectural Iron Works, Poulson &

Eger, Pulitzer bldg. show rooms, 48-51 (see add p. 28)

Jackson Architectural Iron Works, 315 E. 28th (see add p. 31)

Jackson, W. H. & Co. 29 E. 17th (see add p. 84)

Kirtland, Andrews & Co. Ltd. 46-48 Union sq e 17th (see add p. 83)

Luetke, Oscar, 662-668 Hudson (see add opposite Ninth Ward)

Lyon, W. E. 202 E. 46th (see add p. 46)

Marren's, Jos. Sons, 157 E. 44th

Pries, William H. 434 Canal

Prince & Kinkel Iron Works, 729-731 First av (see add p. 51)

Stuetzer, H. & Co. 474-494 Leonard, 49-61 Van

Pelt av Bklyn. 39 Dey (city) (see add p. 40)

Westervelt, A. B. & W. T. 102 Chambers (see add p. 203)

Williams, John, 544-556 W. 27th (see add p. 36)

JACK CHAIN MFRS.

Bridgeport Brass Co. 19 Murray

Holmes, Booth & Haydens, 25 Park pl

Plume & Atwood Mfg. Co. 18 Murray

Pollock, Alexander, 15 Cortlandt

Wallace & Sons, 29 Chambers and 5 Reade

JACK SCREWS.

Howard Foundry and Machine Works, 114

Liberty (see add p. 19)

McCoy, Jos. F. Co. 26 Warren

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HARDWARE, CUTLERY

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Urquhart, John S. 46 Cortlandt

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West Side Arch. Iron Works, Campbell & Vantassell, 550-560 W. 33d (see add p. 29)

KALAMINE, SHEET IRON CLAD WINDOW FRAMES, SASHES, DOORS AND CASINGS.

West Side Arch. Iron Works, Campbell & Vantassell, 550-560 W. 33d (see add p. 29)

KILNS, DRY.

American Drier Co. 115 Broadway

KNOBS, DOOR, BRASS AND BRONZE, MFRS.

Beardsley, J. 149-151 Baxter

Brass Goods Mfg. Co. 83 Chambers

Butler Hardware Co. 18 Warren

Chicago Hardware Mfg. Co. 150 Fifth av

Corbin, P. & F. 24-26 Murray

Dietz, A. E. 97 Chambers

Haggerty, Geo. A. 803 Third av (see add p. 53)

Newman, Allen G. 1180 Broadway

Russell & Erwin Mfg. Co. 47 Chambers

Sargent & Co. 37 Chambers

Smith & Egge Mfg. Co. J. J. Halpin, agent, 62 Reade

Yale & Towne Mfg. Co. 84 Chambers

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LADDERS, POLES, &c.,

300 EAST 64th STREET,

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See advertisement, page 414

Emery-Gates Sectional Ladder & Mfg. Co. 39
Dey

Hester & Henry, 131 Reade

Johnston Brothers, 157 E. 113th

Metz, Ernest, 331 E. 27th

Miller, Edward, 152 E. 23d

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Smith, Joseph, 647 W. 50th

Stokes, William A. & Co. 79 Reade

LAMP BURNER MFRS.

Ansonia Brass & Copper Co. 96 Church

Benedict & Burnham Mfg. Co. 13 Murray

Bridgeport Brass Co. 19 Murray

Bristol Brass & Clock Co. 32 Warren

Constantine & Fenton, 220 Lewis

Craighead & Kintz Co. 33 Barclay

Holmes, Booth & Hayden, 25 Park pl. and 22
Murray

Housatonic Brass Co. 44 Park pl

Manhattan Brass Co. 338 E. 28th

Miller, Edward & Co. 10 and 12 College pl

New York Brass Co. 37 W. 14th

Osborne & Cheesman Co. 39 Barclay

Plume & Atwood Mfg. Co. 18 Murray

Seoville Mfg. Co. 423 Broome

Wallace & Sons, 29 Chambers

Wellington Mfg. Co. 468 and 470 Cherry

LAMPS AND CHANDELIER, ARTISTIC.

Adams & Westlake Mfg. Co. (car) 115 Broad-
way

Ainsworth Mfg. Co. (piano), 118 and 120 Walk-
er and 44 Murray

American Belgian Lamp Co. 31 Barclay

Andrain, Adolph L. 128 W. 23d

Angle Lamp Co. 59 Murray

Ausonia Brass & Copper Co. 96 Church

Barre, Joseph & Co. (ship and yacht), 71 Ful-
ton

Bartlett Street Lamp Mfg. Co. 42 College pl

Berenshon, Siegmund, 86 Fulton

Blaesius, Emile (artistic) 34 W. 3d

Botsford & Noc. 23 Park pl

Bradley & Hubbard Mfg. Co. 21 Barclay and
26 Park pl

Bridgeport Brass Co. 19 Murray

Bristoe Brass & Clock Co. 32 Warren

Burrell, Wm. E. 288 Greenwich

Cassidy & Son Mfg. Co. 133 W. 23d (see add p.
82)

Clark Bros. Co. 4 College pl

Cook, J. Wallis & Co. 148 Water

Covelle, Chas. H. 1150 Broadway

Cox, Parish & Unger, 53 Warren

Creamer, W. G. & Co. (car), 96 John and 19
Platt

Dardonville, Jules, 327 Fifth av

Day & Russell, 42 Barclay

De Voursney Bros. (coach), 389 Broome

Dewey, Edward J. 872 Broadway

Donnell, J. F. & Co. 159 Fifth av. and 52 W.
34th

Dressel, George C. & Co. (railroad), 715 E. 173d

Duffner, Frank J. 42 Murray

Engel & Doering, 212 Centre

Enock Bros. 480 Pearl

Fiske, J. W. (street), 39 Park pl

Fohner & Schwing Mfg. Co. (gas) 391 Broad-
way

Fort, E. M. 17 Warren

Frink, I. P. 551 Pearl (see add opp. Sixth Ward)

Gleason, E. P. Mfg. Co. 20 W. Houston

Gombert, Joseph F. (coach), 1557 Broadway

Gotliberg, H. 37 College pl

Granberry, D. W. & Co. 189 Broadway

Greeley, E. S. & Co. The. (car), 5 and 7 Dey

Hahn & Brinnett, 252 Greenwich

Hanson & Ortmann (coach), 54 Cliff

Harper Bros. Co. 16 Murray

Helvig, H. A. J. (ship, house and street), 27
South

Hicks & Smith (railroad), 42 S. Fifth av

Hinrichs & Co. 31 Park pl

Holmes, Booth & Hayden, 25 Park pl. and 22
Murray

Holmes, Oliver C. 96 Church

Industrial Light Co. Temple Court and 5 Beek-
man

Johnson, Albert V. 46 Murray

Keegan & Halpin ("Wells light" for large
shops), 44 and 46 Washington

Knapp Mfg. Co. The (student), 22 and 24 Frank-
fort

Kraemer, Wm. 538 Courtland av

Kruse & Baron, 207 and 209 Centre

Lawrence, J. M. (steel), 194 Water

Lovell, F. H. & Co. 118 John

Manhattan Brass Co. 338 E. 28th

Manning, Bowman & Co. 57 Beekman

Matthews & Willard Mfg. Co. 40 Murray

McFadden, H. G. & Co. 38 Warren

Meriden Britannia Co. (artistic and extension),
46 E. 14th

Meriden Bronze Co. 30 Park pl

Meriden Malleable Iron Co. 40 College pl
 Middletown Plate Co. 22 John
 Miller, Edward & Co. (brass and bronze) 10 and 12 College pl
 Miner, Jacob G. (street) 823 Eagle av
 Mitchell Vance Co. The, 836 Broadway
 Moore, M. E. Bronze and Plate Co. 540 to 546 W. 23d and 3 Park pl
 Muller's, Nicholas, Sons, 117 Chambers
 Nail City Lantern Co. 97 Chambers
 National Meter Co. (gas), 287 Broadway
 New Jersey Lamp & Bronze Works, 44 Murray
 New York Brass Co. 37 W. 14th
 New York Kerosene Gas Light Co. 261 Pearl
 Nichols, J. J. Mfg. Co., 26 Barclay
 Parker, Charles Co. The, 97 Chambers
 Pfitzner, Lendesdorff & Co. (piano), 12 Jacob and 44 Park pl
 Phoenix Glass Co. 42 Murray
 Pittsburgh Brass Co. Ltd., 44 Park pl
 Plume & Atwood Mfg. Co. 18 Murray
 Porter's, Wm. Sons (ship), 271 Pearl
 Pratt, Z. I. & Co. (coach), 189 Mercer
 Railroad Signal Lamp and Lantern Co. 447 W. 53d
 Riesthal, A. de & Co. (importers), 55 Murray
 Riley-Oshorn Mfg. Co. (piano), 529 Broadway
 Rochester Lamp Co. 42 Park pl. and 37 Barclay
 Russell, W. F. 42 Barclay
 Sands Bros. (ship side light), 6 Reade
 Sawyer-Man Electric Co. (electric), 510 W. 23d
 Schuneman, C. H. 2 and 4 Howard
 Seville Mfg. Co. 423 Broome
 Sheldon Mfg. Co. (gas), 18 W. 23d
 Silver & Co. 56 Warren
 Smith, Josephine D. 350 and 352 Pearl
 Stevens, H. A. & L. F. 55 W. 16th
 Taylor, C. W. jr. 46 Murray
 Titsink & Eising, 157 W. 29th
 United Gas Lamp Co. 825 Broadway
 Universal Arc Lamp Co. 15 Cortlandt
 U. S. Lighting and Ventilating Co. (street) 24 W. 4th
 Wallace & Sons, 29 Chambers
 Wellington Mfg. Co. 468-470 Cherry
 Wilcox & Matthews Co. 42 Murray
 Williams, John, 544 W. 27th (see add p. 36)
 Williams, H. A. Mfg. Co. 55 Fulton

LAMPS, HOUSE AND STREET, ORNAMENTAL.

Ainsworth, James, 44 Murray and 120 Walker
 Am. Belgian Lamp Co. 31 Barclay
 Angle Lamp Co. 59 Murray
 Ansonia Brass & Copper Co. 96 Church
 Barre, Joseph & Co. 71 Fulton
 Bartlett Street Lamp Mfg. Co. 40 College pl
 Berendshon, Siegmund, 86 Fulton
 Bergmann Gas & Electric Fixture Co. 79 Fifth av
 Botsford & Noc, 33 Park pl
 Bradley & Hubbard Mfg. Co. 21 Barclay and 26 Park pl
 Bridgeport Brass Co. 19 Murray
 Burrill, William E. 288 Greenwich
 Cook, J. Wallis & Co. 148 Water
 Cornell, J. B. & J. M. 141 Centre. W. 26th st.
 Tenth and Eleventh avs (see add pp. 35, 37, 39)
 Covell, Charles H. 1150 Broadway

Cox, Parish & Unger, 53 Warren
 Craighead & Kintz Co. 33 Barclay and 38 Park pl
 Creamer, W. G. & Co. 96 John
 Dardenville, Jules, 327 Fifth av
 Day & Russell, 42 Barclay
 Dewey, Edward J. 872 Broadway
 Donnell, J. F. & Co. 159 Fifth av
 Dietz, R. E. Co. 60 Laight
 Dressel, George C. & Co. 715 E. 173d
 Duflner, Frank J. 42 Murray
 Enock Brothers, 478 Pearl
 Excelsior Lantern Co. 192 Water
 Fisk, J. W. 39 Park pl
 Fort, E. M. 17 Warren
 Frink, I. P. 551 Pearl (see add opp. Sixth Ward)
 Gleason, E. P. Mfg. Co. 20 W. Houston
 Hahn & Brunett, 262 Greenwich
 Hanlon & Ortmann, 239 Centre
 Harper Brothers Co. 16 Murray
 Hecla Architectural Bronze & Iron Works, Poulson & Eger, Pulitzer bldg. show rooms 48-51 (see add p. 28)
 Helvig, H. A. J. 45 Fulton
 Hicks & Smith, 42 S. Fifth av
 Holmes, Booth & Hayden, 25 Park pl
 Jackson Architectural Iron Works, 315 E. 28th (see add p. 31)
 Holmes, Oliver C. 96 Church
 Johnson, Albert V. 46 Murray
 Kramer, William, 583 Courtland av
 Lovell, F. H. & Co. 118 John and 233 Pearl
 Luetke, Oscar, 662-668 Hudson (see add opposite Ninth Ward)
 McFadden, H. G. & Co. 38 Warren
 Meriden Britannia Co. 46 E. 14th
 Meriden Bronze Co. 30 Park pl
 Meriden Malleable Iron Co. 42 Park pl and 37 Barclay
 Miller, Edward & Co. 10 College pl
 Miner, Jacob G. 823 Eagle av
 Mitchell-Vance Co. The, 836 and 838 Broadway
 Moore, Michael E. 3 Park pl. and 540 W. 22d
 Muller's, Nicholas, Sons, 117 Chambers
 National Meter Co. 287 Broadway
 Nichols, J. J. Mfg. Co. 26 Barclay
 Parker, Charles, Co. 97 Chambers
 Phoenix Glass Co. 42 Murray
 Plume & Atwood Mfg. Co. 18 Murray
 Pries, William, 431 Canal
 Riesthal, A. de & Co. 55 Murray
 Rochester Lamp Co. 42 Park pl. and 37 Barclay
 Rorke, Edward & Co. 40 Barclay
 Ronis, Rophine, 390 Fifth av
 Russell, William F. 42 Barclay
 Schiffers, Martin, 128 First av
 Schneider, Bennett B. 37 Park pl
 Shand, T. Y. & Co.
 Smith, Josephine D. 352 Pearl
 Straussman, Peter, 52 First
 Taylor, C. W. jr. 46 Murray
 Titsink & Eising, 157 W. 29th
 United Gas Lamp Co. 825 Broadway
 Universal Arc Lamp Co. 15 Cortlandt and 49 W. 22d
 Wellington Mfg. Co. 468 Cherry
 Weinstein, Moses, r 122 Elizabeth
 Westervelt, A. B. & W. T. 102 Chambers (see add p. 203)
 Wilcox & Matthews Co. 42 Murray
 Williams, Jno. 544 to 556 W. 27th (see add p. 36)

Lamp Wick Manufacturers.—Lantern Manufacturers.—Lathe Manufacturers.

LAMP POSTS.

Bartlett Street Lamp Mfg. Co. 40-42 College pl
 Bent, Samuel S. & Son, 111 Chambers
 Blakslce, E. G. Co. 78 Centre
 Cheney & Hewlett, 38 Park row (see add p. 41)
 Cheney & Preyer, 21 Park row
 Cornell, J. B. & J. M. 141 Centre, W. 26th st.
 Tenth and Eleventh avs (see add pp. 35, 37, 39)
 Dimond, J. G. & T. 209 W. 33d
 Drummond, M. J. 192 Broadway
 Fiske, J. W. 39 Park pl
 Floyd, J. R. & Sons, 539 W. 20th
 Fox, John, 160 Broadway
 Gleason, E. P. Mfg. Co. 20 W. Houston
 Hecla Architectural Bronze & Iron Works,
 Poulson & Eger, Pulitzer bldg. show rooms
 48-51 (see add p. 28)
 Jackson Architectural Iron Works, 315 E. 28th
 (see add p. 31)
 Mclert Foundry and Machine Co. John Fox,
 Agt. 160 Broadway
 Miner, Jacob G. 823 Eagle av
 Mott, J. L. Iron Works, 88-90 Beekman
 Nichols, S. & Son, 66 W. 3d
 N. Y. & N. J. Globe Gas Light Co. 115 B'way
 Penn Globe Gas Light Co. 115 Broadway
 Phoenix Iron Co. 10 W 23d
 Pitt, William R. Composite Iron Works, 83
 Reade
 Salem Foundry and Machine Co. Salem, Mass.
 F. E. Idell, agent, 41 Dey (see add p. 17)
 United States Lighting and Ventilating Co. 24
 W. 4th
 Westervelt, A. B. & W. T. 102 Chambers (see
 add p. 203)
 Westing, Theo. 449 W 41st
 Williams, John, 544-556 W. 27th (see add p.
 36)

LAMP WICK MFRS.

Am. Wick Mfg. Co. 26 Broadway
 Fletcher Mfg. Co. 18 Thomas
 Lees Mfg. Co. 1 Reade
 Schneider, Charles A. r. 436 E. 17th

LANTERN MFRS.

Aikman, S. M. & Co. 261 Pearl
 Bartlett Street Lamp Mfg. Co. (street), 40-42
 College pl
 Bradley & Hubbard Mfg. Co. (fancy hand), 21
 Barclay, 26 Park pl
 Bridgeport Brass Co. 19 Murray
 Bristol Brass and Clock Co. 32 Warren
 Clausen & Hoffmeyer, 533 E. 15th
 Dietz, R. E. Co. 76 Fulton, 60 Laight
 Fire Extinguisher Mfg. Co. 15 Cortlandt
 Gleason, E. P. Mfg. Co. 20 W. Houston
 Gleason & Bailey Mfg. Co. Ltd. (for fire de-
 partment), 187-189 Mercer
 Hayward, S. F. & Co. 351 Canal
 Holmes, Booth & Haydens, 25 Park pl
 Hoole Mfg. Co. 53 Great Jones

Howard & Morse, 35 Fulton (see add p. 5)
 Kruse & Baron (house hall), 207-209 Centre
 Lawrence, J. M. 194 Water
 Manhattan Brass Co. 338 E. 28th
 Meriden Malleable Iron Co. 30 Park pl
 Miller, Edward & Co. 10-12 College pl
 Nail City Lantern Co. 97 Chambers
 N. Y. & N. J. Globe Gas Light Co. 115 B'dway
 Pisch, F. L. 229 Sixth
 Plume & Atwood Mfg. Co. 18 Murray
 Riesthal, A. de & Co. (tubular), 55 Murray
 Schunemann, C. H. 2-4 Howard
 Smith, Josephine D. 350-352 Pearl
 Straus, L. & Sons, 42-48 Warren
 Union Gas and Oil Stove Co. 406 Pearl, 12
 New Bowersy
 United States Lighting and Ventilating Co. 24
 W. 4th
 United States Supply Co. Ltd. 51 John
 Wakeman, H. T. 86 Cortlandt, 85 Chambers
 Walton Mfg. Co. 30 Church
 Washburn & Co. 78 Cortlandt
 Wilson, Henry, r. 549 Pearl

LATHE MFRS.

American Saw Co. 35 Dey
 Beggs, James & Co. 9 Dey
 Birmingham Iron Foundry (heavy roll lathes),
 95 Liberty
 Cavagnaro, J. & F. (watch case), 216 Centre
 Church & Slaughter, 109 Fulton
 Donegan & Swift, 11 Murray
 Fitchburg Machine Works, 68 Cortlandt
 Frasse, Peter A. & Co. 95 Fulton
 Frasse & Co. 90-94 Park row
 Garvin Machine Co. The, Laight and Canal
 Hill, Francis J. 211 Centre
 Little, Charles E. 59 Fulton (see add p. 101)
 Lodge & Davis Machine Tool Co. 64 Cortlandt
 Manning, Maxwell & Moore, 111-113 Liberty
 Miller's Falls Co. 93 Reade
 Monticmont, E. 120 Walker
 Niles Tool Works, 98 Liberty
 Pond Machine Tool Co. The, 113 Liberty
 Prentiss Tool and Supply Co. 115 Liberty
 Prybil, P. (wood and brass) 512-524 W. 41st
 Thompson, Frank, 178 Centre

LATHING, METAL.

Althause, S. B. & Co. 101-103 Thompson (see
 add p. 27)
 Bostwick Metal Lath Co. 38 Park row, J. K.
 Combs, manager (see add p. 113)
 Central Expanded Metal Co. 67 Reade (see add
 p. 114)
 Cheney & Hewlett, 38 Park row (see add p. 41)
 Clinton Wire Cloth Co. 76 Beekman, George E.
 Howard, Agt
 Cornell, J. B. & J. M. 141 Centre (see add
 pp. 35, 37, 39)
 Gilbert & Bennett Mfg. Co. The, 44 Cliff
 Hayes, Geo. 71 Eighth av (see add p. 8)
 New Jersey Wire Cloth Co. 117-119 Liberty

Laundry Machinery and Supplies — Laundry Tubs and Sinks, Plumbers' Supplies —
Laundry Ventilation. — Lavatories.

LATHING, WIRE.

Cheney & Hewlett, 38 Park row (see add p. 41)
Clinton Wire Cloth Co. 76 Beekman, George E. Howard, Agt.
De Witt Wire Cloth Co. 32 Reade (see add p. 23)
Estey, W. S. 65 Fulton (see add p. 24)
Gilbert & Bennett Mfg. Co. The, 44 Cliff
Howard & Morse, 45 Fulton (see add p. 5)
McMurray, R. T. & Bro. 141 Centre (see add p. 25)
New Jersey Wire Cloth Co. 117-119 Liberty
Washburn & Moen Mfg. Co. 16 Cliff

LAUNDRY MACHINERY AND SUPPLIES.

Bentzen, Chas. A. 240 W. 12th
Bour, Thomas, 50 Bond
Cairns, W. & Sons, 93 Elizabeth
Cataract Wash. Mach. Co. 74 Cortlandt
Dolph, A. M. Co. The, 40 Cortlandt
Empire Laundry Machinery Co. 12 Cortlandt
Haley, Joseph, 1198 Tremont av
Hirsch, Isaac, 286 Second
Hirsch, Leon & Sons. 370 Greenwich
Hospital Supply Co. 36 Dey
Kohnstamm, H. & Co. 126 Chambers
Lauer, Peter, 165 Prince
Metropolitan Mfg. Co. 32 Cortlandt
Oakley & Keating, 40 Cortlandt
Recknagel & Co. 74 Cortlandt
Richards, Frank, 412 W. 45th
Roberts, Geo. I. & Bros. 471-473 Fourth av (see add pp. 62, 63)
Troy Laundry Machinery Co. Ltd. 15 Warren

TROY

LAUNDRY MACHINERY CO., (LIMITED.)

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EASTERN SALESROOM,

15 WARREN ST., NEW YORK.

See Advertisement.

LAUNDRY TUBS AND SINKS, PLUMBERS' SUPPLIES.

Adee, Fred. & Co. 90 Beekman (see add p. 109)
Albemarle Soapstone Co. 393 Pearl, The Alberne
Aspinall, E. 98 Beekman
Blakslee, E. G. Mfg. Co. 78 Centre
Blessing, Geo. A. 290 Pearl (see add p. 110)
Brandt, Fred. 169 E. 85th (see add p. 106)
Brooklyn Slate Mantel Co. Office & Salesroom Broadway and Halsey sts, Brooklyn; New York Office and Salesroom, 1114 Park av (see add p. 81)
Dalton-Ingersoll Co. 64 Gold
Haydenville Mfg. Co. 73 Beekman
Macknight Flintic Stone Co. 150 Broadway (see add p. 7)
McShane, Henry, Mfg. Co. 625-627 Sixth av (see add p. 108)

Miller & Coates, 270 Pearl
Mott, J. L. Iron Works, 88 Beekman
Oakley & Keating, 40 Cortlandt
Penrhyn Slate Mantel Co. 101 E. 17th (see add p. 80)
Portland Cement Stone Co. Central bldg, 143 Liberty
Read, Henry P. 227 Pearl
Robinson Stoneware Co. 259 Water, Brooklyn
ROBINSON STONEWARE COMPANY,

Crown Stoneware, Anchor Stoneware, Scotch Granite Stoneware,

LAUNDRY TUBS.

No. 259 Water Street, BROOKLYN.
Telephone, 1288 B'klyn.

Sanitas Mfg. Co. 54 Gold
Stewart Ceramic Co. 312 Pearl (see add p. 4)
Tomkins, Calvin, 159 Broadway (see add p. 140)
Trageser, John, Steam Copper Works, 447 W. 26th (see add p. 111)
Williams & Co. 90 Ann

WILLIAMS & CO.,

The Francestown Soapstone LAUNDRY TUB,

Nos. 90 & 92 ANN STREET,
Corner Gold Street, NEW YORK.

LAUNDRY VENTILATION.

Howard & Morse, 45 Fulton (see add p. 5)

LAVATORIES.

Adee, Fred. & Co. 90 Beekman (see add p. 109)
Aspinall, E. 98 Beekman
Blessing, Geo. A. 290 Pearl (see add p. 110)
Brooklyn Slate Mantel Co. office and salesroom Broadway and Halsey sts, Brooklyn, New York office and salesroom, 1114 Park av (see add p. 81)
Dalton-Ingersoll Co. 64 Gold
Huber, Henry & Co. 81 Beekman (see add p. 110)
Meyers-Sniffen Co. (Ltd.) 48 Cliff
Mott, J. L. Iron Works, 88 Beekman
Peck Bros. & Co. 47 Cliff
Sanitas Mfg. Co. 54 Gold
The Penrhyn Slate Co. 101 E. 17th (see add p. 80)
Washburn, W. F. The, Yonkers, N. Y.

LAWN FENCES.

Central Expanded Metal Co. J. K. Combs, manager, 67 Reade (see add p. 114)
Clinton Wire Cloth Co. 76 Beekman, George E. Howard, agent
Howard & Morse, 45 Fulton (see add p. 5)
New Jersey Wire Cloth Co. 117-119 Liberty
The Gilbert & Bennett Mfg. Co. 42-44 Cliff
Washburn & Moen Mfg. Co. 16 Cliff

Lead Manufacturers.—Lead, Pig and Bar.—Lead Pipe, Plumbers' Supplies.—Lead Sash Weights.—Lead Traps, Plumbers' Supplies.

LAWN SPRINKLERS.

Adee, Fred. & Co. 90 Beekman (see add p. 109)
Blessing, George A. 290 Pearl (see add p. 110)
Buick & Sherwood, 44 Cliff
Graham, John H. & Co. 113 Chambers
McShane, Henry, Mfg. Co. 625-627 Sixth av (see add p. 108)
Mott, J. L. Iron Works, 88 Beekman
Quinn, W. H. & Co. 103 Chambers

LEAD MFRS.

Atlantic White Lead & Linseed Oil Co. 287 Pearl
Butcher, J. H. & Son, 252 Water
Colwell Lead Co. 63 Centre, 524 Pearl and 681 Sixth av
Cooke Smelting & Refining Co. office 22 Burling sl
Le Roy Shot and Lead Mfg. Co. The, 261 Water
National Lead & Oil Co. The, 28 Burling sl
Sanborn, John, 217 Water
Schwartz, E. H. 23 Av. A (see add p. 106)
Sterling Lead and Zinc Co. 52 Broadway
Tatham & Bros. 82-84 Beekman
The New York Smelting and Refining Co. cor. Jane & West (see add opposite Sash Weights, Lead)

LEAD, PIG AND BAR.

Ackerman, J. H. & Co. 259 Pearl
American Metal Co. 80 Wall
Behr & Steiner, 93 John and 12 Cliff
Byrne, Edward F. 54 Cliff
Clarke, George W. 137 Spring
Coddington, T. B. & Co. 27 Cliff
Colwell Lead Co. 63 Centre, 524 Pearl and 681 Sixth av
Consolidated Kansas City Smelting and Refining Co. 20 Nassau
Dayol, John & Sons, 100 John
Dickerson, Van Dusen & Co. 29-31 Cliff
Hart, Lucius & Co. 10 Burling sl
Hendricks Bros. 49 Cliff
Houston, D. & Co. 22 Platt
Le Roy Shot and Lead Mfg. Co. The, 261 Water
Lissberger, L. & Co. 46 Cliff
McShane, Henry, Mfg. Co. 625-627 Sixth av (see add p. 108)
National Lead Co. 1 Broadway
Naylor & Co. 25 Wall
Pope's, Thomas J. Sons & Co. 292 Pearl
Quincy, John W. & Co. 98 William
Russell, William I. & Co. 2 Burling sl
The N. Y. Smelting & Refining Co. cor. Jane and West (see add opp. Sash Weights, Lead)
White, Edward P. & Co. 4 Burling sl
Wildes, Thomas, 246 Water

LEAD PIPE, PLUMBERS' SUPPLIES.

Appleby, J. C. 55 Liberty
Blessing, Geo. A. 290 Pearl
Bradley & Currier Co. (Ltd.) 308 Hudson
Colwell Lead Co. 63 Centre, 524 Pearl and 681 Sixth av
E. R. Lead Co. 523 E. 19th
Kahn Bros. 528 E. 20th
Le Roy Shot and Lead Mfg. Co. 261 Water and 1343 Broadway
McShane, Henry, Mfg. Co. 625-627 Sixth av (see add p. 108)
Mayor, Lane & Co. 119 Walker
New York Smelting and Refining Co. The, Jane cor. West (see add opp. Sash Weights, Lead)
Roberts, Geo. I. & Bros. 471-473 Fourth av (see add pp. 62, 63)
Sanitas Mfg. Co. 54 Gold
Tatham & Bros. 82 Beekman and 135 W. 30th

LEAD SASH WEIGHTS.

Butcher, J. H. & Son, 252 Water

JOHN H. BUTCHER & SON,
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Manufacturers of

Sash Weights, Lead,
OF ALL SHAPES & SIZES.

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Jane & West

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Cor. Jane & West Sts., N. Y.

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See Advertisement, opposite Sash Weights, Lead.

LEAD TRAPS, PLUMBERS' SUPPLIES.

Adee, Fred. & Co. 90 Beekman (see add p. 109)
Blessing, Geo. A. 290 Pearl (see add p. 110)
DuBois Mfg. Co. 245 Ninth av (see add p. 105)
Locke, Chas. 107 W. 37th
McShane, Henry, Mfg. Co. 625-627 Sixth av (see add p. 108)
Mott, J. L. Iron Works, 88 Beekman

LEADERS, HOUSE.

Abendroth & Root Mfg. Co. 28 Cliff (see add opp. Key to Ward Atlas)

Leading Hose, Rubber.—Leather Belting.—Letter Box Manufacturers.—Letter Files and Cabinets.—Lightning Rod Manufacturers.

Blakslee, E. G. Mfg. Co. 78 Centre
Bruce & Cook, 186-190 Water and 248-250 Pearl
Davidson, M. 313 Av. A
DeMilt, H. R. 238 Water
Merry, John & Co. 535-547 W. 15th (see add p. 66)

LEADER STRAINERS.

Abendroth & Root Mfg. Co. 28 Cliff (see add opposite Key to Ward Atlas)
Bruce & Cook, 186-190 Water and 248-250 Pearl
DeWitt Wire Cloth Co. 32 Reade (see add p. 26)
Estey, W. S. 65 Fulton (see add p. 24)
Howard & Morse, 45 Fulton (see add p. 5)
Merry, John & Co. 535-537 W. 15th (see add p. 66)

LEADING HOSE, RUBBER.

Greene, Tweed & Co. 83 Chambers (see add p. 53)
Gutta Percha & Rubber Mfg. Co. 35 Warren
Imperial Rubber Co. 134 Liberty, George E. Austin, manager
N. Y. Belting & Packing Co. 15 Park row (see add front inside cover)
Revere Rubber Co. 64 Reade
Waterbury Rubber Co. 49 Warren (see add p. 72)

LEATHER BELTING.

Am. Leather Link Belt Co. 72 Cliff
Beggs, James & Co. 9 Dey
Behringer & McCoy, 96 Centre
Boston Belting Co. 100 Chambers
Donegan & Swift, 11 Murray
Fayerweather & Ladew, 30 Spruce
Fitzgerald, Michael J. 62 Centre
Greene, Tweed & Co. 83 Chambers (see add p. 53)
Heim Belting Co. 29 Ferry
Herkner & Stine, 8 Ferry
Hoffmann, Ernst A. 83 Gold
Hubert, Francis, 114 Centre
Johnstone & Buckley, 37 Ferry
Kerr & Co. 304 Broadway
Laurance, Albert B. 225 Pearl and 1 Platt
Leonard & McCoy, 118 Liberty
Leob & Francis, 23 Frankfort
Lyons, James, 6 Ferry
Maynard, John Q. 114 Liberty (see add p. 20)
Mineralized Rubber Co. 18 Cliff
Munson, Charles, Belting Co. 44 Dey
New York Belting & Packing Co. 15 Park row

NEW YORK BELTING AND PACKING CO., 15 PARK ROW.

OLDEST & LARGEST MANUFACTURERS OF

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See Advertisement, Front Inside Cover.

N. Y. Leather Belting Co. 84 Gold
Newark Leather Belting Co. 32 Ferry
Page Belting Co. 16 Dey
Pollock, Alex. 15 Cortlandt
Roberts, Geo. I. & Bros. 471-473 Fourth av (see add pp. 62, 63)
Roberts, Samuel, 369 Pearl
Schieren, Charles A. & Co. 45 Ferry
The Burnet Co. 126 Maiden la
Underwood Mfg. Co. 73 Cortlandt
Whitney & Starr, 232 West

LETTER BOX MFRS.

Haggerty, Geo. A. 803 Third av (see add p. 53)
Murphy & Fink, 2056 Seventh av

LETTER FILES AND CABINETS.

Amberg File & Index Co. 79 Duane
Brower Bros. 295 Broadway
Brown & Bestley, 287 Broadway
Dicks, A. B. & Co. 47 Nassau
Globe Co. The, 86 Warren
Hodgens, Henry C. 37 College pl
Office Specialty Mfg. Co. 77 Chambers

LIGHTNING ROD MFRS.

De Witt Wire Cloth Co. 32 Reade (see add p. 26)
Howard & Morse, 45 Fulton (see add p. 5)
John, O. N. Charles, 52 John
Jones, Thos. W. 170 and 172 Front
Lilly, Chas. H. 16 Centre
Rochling's, John A. Sons Co. 117 Liberty
Taunton Copper Mfg. Co. 232 South
Twiner, John, 40 Cortlandt
Washburn, E. G. & Co. 46 Cortlandt
West, J. G. & Co. 49 Cortlandt
Westervelt, A. B. & W. T. 102 Chambers (see add p. 203)
Williams, E. H. 64 College pl
Wilson, Alphonso, 46 Cortlandt

LIGHTS, FLOOR.

Althause, S. B. & Co. 101-103 Thompson (see add p. 27)
Dale Tile Mfg. Co. Ltd. 398 Broome (see add p. 49)

Lime Manufacturers.—Linings, Flue.—Litofuge Boiler Compound Manufacturers.—
Lock Manufacturers.

French, J. C. & Son 452 Canal (see add p. 47)
Mark, Jacob, 7 Worth (see add p. 30)
Owens, Alexander & Co. 71 King
Tice & Jacobs, 510 Pearl (see add p. 32)

LIGHTS, PORTABLE.

Dale Tile Mfg. Co. Ltd. 398 Broome (see add p. 49)
Keegan & Halpin, 44-46 Washington

LIME MFRS.

Bloomer & Co. 103 Oliver and 194 South
Brooks, James, 611 W. 55th
Brown, Hezekiah P. 14 Coenties sl
Jointa Lime Co. 21 Cortlandt
Malone, Edward, 393 W. 12th
Miller, & Vanvalen, 284 South
Morse, F. E. Co. 7 Coenties sl
Osborne, Henry S. 198 Broadway
Pier, Elwood C. 114 Pearl
Tomkins, Calvin, 150 Broadway (see add p. 140)
Van Valen, Jos. R. 284 South and 14 Vesey

LININGS, FLUE.

Colman, Chas. H. & Co. 145 Broadway (see add pp. 136, 137)
Meeker & Carter, 14 E. 23d
Persons, Orrin D. Mohawk bldg. 160 Fifth av cor. 21st (see add p. 139)
Robbins, Geo. B. & Co. 136th and Third av (see add p. 122)
Staten Island Terra Cotta Lumber Co. 120 Broadway (see add p. 130)
U. S. Fire Clay Co. New York Office, Chas. H. Colman & Co. agents, 145 Broadway (see add pp. 136, 137)

LITOFUGE BOILER COMPOUND MFRS.

Litofuge Mfg. Co. 62 John

LOCK MFRS.

Aherns, John, 2 Forsyth
Arrowsmith, C. 150 Fifth av
Bayer Geo. (cabinet), 77 W. Houston
Bolz & Hass, 176 Centre
Branford Lock Works, 94 Chambers
Butler Hardware Co. 18 Warren
Butler, W. H. (door), 79 Duane
Candie, Chas. E. 5 Dey
Chicago Hardware Mfg. Co. 150 Fifth av
Corbin Cabinet Lock Co. 24 and 26 Murray
Corbin, P. & F. (door) 24 and 26 Murray
Crane & Halpin, 62 Reade
Culbert Bros. 311 W. 40th
Defiance Seuttle Lock Co. 157 E. 57th and 277 Church
Deitz, Alonzo E. (patent), 97 Chambers

Eagle Lock Co. (cabinet, trunk and pad lock) 98 Chambers
Elbert, Fred'k, 106 W. 37th and 144 Wooster
Haggerty, Geo. A. 803 Third av (see add p. 53)
Hall's Safe & Lock Co. (bank and time), 324 Broadway
Hass, Theodore M. (small brass), 176 Centre
Herring & Co. (bank), 251 Broadway
Holmes Burglar Alarm Telegraph Co. 518 B'way
Hopkins & Dickinson Mfg. Co. 83 Reade
Kanter, David, 213 E. 121st
Keddy, Jas. 220 W. 29th
Keil, Francis & Son, 162 E. 53d
Keyless Lock Co. 46 Wall
King, J. J. rear 132 W. 35th
Knight, Geo. D. & Co. 206 E. 23d
Ludovici & Heizenroeder, 118 Wooster
Mallory-Wheeler Co. The (door and padlock) 64 Reade
Mossman, J. M. 72 and 101 Maiden la
National Safe & Lock Co. 406 Broadway
Norwalk Lock Co. 82 Chambers
Norwich Lock Mfg. Co. 77 Chambers
Novius, W. K. 150 Fifth av
Parker, Chas. Co. The, 97 Chambers
Reading Hardware Co. 81 Reade
Russell, C. M. (brass), 458 E. 10th
Russell & Erwin Mfg. Co. 43-47 Chambers
Sargent & Co. (door and pad), 37 Chambers
Sargent & Greenleaf (patent), 72 Maiden la
Schade, R. 439 E. Houston
Seeger, August, 528 Sixth
Skinner, Charles G. 341 W. 49th
Smith & Egge Mfg. Co. (pad mail box), represented by J. J. Halpin, 62 Reade
Smith & Griggs Mfg. Co. 101 Franklin
Stock C. A. & Co. 118 Wooster
The Turn Tumbler Lock Co. 46 Marion
Tiebout, W. & J. 16 and 18 Chambers
Topp, Max, 14 Rivington
Tower & Lyon. (pad), 95 Chambers
Universal Lock Co. 50 Exchange pl. and 24 West
Whately, Geo. B. 139 Lewis
Wright, John W. 142 Fulton
Yale & Towne Mfg. Co. (cabinet and pad), 84 and 86 Chambers

LOCKSMITHS AND BELL HANGERS.

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American, Aaron, 152 Third av
Andrews, P. H. 2295 Eighth av
Anger, Henry, 29 First
Arens, Hermann, 240 Eighth av

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Badenhausen, H. J. 100 W. 46th

Bauer, Theodore, 1609 Broadway

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Bollenbacher, Geo. 321 Lenox av
Bopp, Michael W. 997 Sixth av
Boyle, John J. 944 Elm
Bromdofar, Francis, 923 Third av
Bullock, W. H. 29 Sixth av
Burkhardt, R. 409 Broome
Burras, Wm. H. 52 King
Bushell, Geo. & Co. 374 Second av
Carman, W. A. 841 Sixth av
Carpenter, Isaac, 2289 Second av
Carr, Thomas, 251 Columbus av
Christman, Louis, 626 Second av
Clark, C. C. 390 Main
Cory, Chas. & Son (ship bell hangers) 278 Division
Cosgrove, Jos. W. 472 Canal
Crahey, M. E. 191 Third av
Danat, Rudolph F. 874 Sixth av
Davis, Edward A. 58 E. 64th
Day, C. H. 2635 Third av
Deckert, B. 303 E. 70th
Dieckhaus, H. 159 Mott
Doderer, John, 60 Watts
Donat, Rudolph F. 988 Sixth av
Donnellan, Geo. 915 Sixth av
Eekersen, Jacob H. 714 Fourth av
Eisert, Alwin, 872 Eighth av
Ergenzinger, G. 415 E. 14th
Erlenkoesser, Charles, 528 E. 13th
Eyler, William, 879 Ninth av
Farrell, Thomas, 2257 Third av
Finegan, Patrick, 199 Seventh
Firth, J. A. 4 Beach
Fischer, Jacob, 130 Liberty
Fox, Wm. 385 Lenox av
Frank, B. 511 E. 16th
Fritzch, Emil, 1157 Third av
Fuchs, John F. 24 Av. A
Ganzemueller, Adolf, 177 E. 74th
Geiger, F. 88 Greenwich
Geiger, Geo. 196 William
Gerhards, Albert, 1012 Second av
Gerlich, F. W. 223 E. 80th
Gill, John C. 90 E. 9th
Goodrich, Charles E. 493 Eighth av
Greir, Hugh, 239 E. 24th
Groom, L. J. 201 E. 61st
Haase, G. J. 130-132 Worth
Haggerty, Geo. A. 803 Third av (see add p. 53)
Haggstedt, Charles, 372 Park av
Hanley, John, 314 Hudson
Hartill, Benjamin, 2734 Division
Haslam, John A. 25 E. 12th
Hass, Theodore M. (small brass) 176 Centre
Haubeil, Chas. 1 Gouverneur
Hansmann, Wm. A. 517 Grand
Hawkins, Jas. J. 9 Columbus av
Hees, Jacob, 67 Fourth av
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Hill, Edward, 29 Sullivan
Hirschfeld, Joseph. 142 Eldridge
Hoadley, G. W. 505 Madison av
Hodson, Geo. W. 2466 Eighth av
Hodson & McNally, 2710 Tenth av
Hoehn, Wm. 301 W. 16th
Hoffman, F. W. & Sons, 3148 Third av
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Hudson, G. H. 2466 Eighth av
Hudson, William H. 3603 Third av
Hyman, Morris, 133d and Lexington av
Jakobson, Max, 1754 E. 77th
Kabns, Frederick, 202 E. 50th
Kanze, Robert, 103 E. 9th
Katz, John, 76 Goerick
Kedley, James, r 220 W. 29th
Keenan, J. 130th and Lexington av
Keller, Adolph, 123 W. 10th
Ketting, Charles, 37 W. 125th
Klein, S. 2107 Second av
Knight, Geo. D. & Co. 208 E. 23d
Kohlhof, A. 263 Seventh av
Krueger, Adolph, 92 Seventh av
Lee, William, 325 Bonlevard
Levy, Isaac, 81 Suffolk
Liebe, Charles, 30 Great Jones
Lipps, Charles E. 74 Maiden la
Loeschmann, John F. 129 First av
Lohmann, Bernhard, 417 Ninth av
Luckert, Peter, 513 E. 11th
MacMillan, William, 1365 Lexington av
Mannberger, Chas. 1041 Third av
Markert, N. 428 Seventh av
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May, William, 1272 Third av
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 McMahon, P. 863 Sixth av
 McManus, P. H. 221 E. 23d
 Meister, Chas. 70 Pitt
 Messing, William, 83 William
 Meyer, Frederick, 239 Seventh av
 Mignault & Prichard, 1 W. 3d
 Mittler, John, 475 Canal
 Moore, Wm. D. Boulevard n W. 81st
 Moran, Owen. 52 New
 Moravec, W. 1401 Av. A
 Mueller, Frederick, 221 E. 59th
 Muendel, Edmund, 92 Pitt
 Murphy & Fink, 2056 Seventh av
 Murphy, Thomas F. Kingsbridge road n E.
 189th
 Murphy, Thomas J. & Co. 1057 Third av
 Murray, David, 639 Sixth av
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 Nicholson, C. F. & Bro. 431 Sixth av
 Norman, John G. 286 Eighth av
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 Ott, Franz, 409 E. 78th
 Paley, Wm. 2015 Seventh av
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 Pinckney & Salmon, 1884 Vanderbilt av E.
 Rajman, A. 45 W. 3d
 Rehn, Martin, 414 W. 53d
 Renne, Chas. 103 Mercer
 Roegner, Ferdinand, 672 Tenth av
 Rothenurger, Gottlieb, 120 W. 26th
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 Schulz, Frank, 247 E. 28th
 Schwargerl, Adam, 186 Norfolk
 Schwarz, E. G. 633 Third av
 Seiffert, Charles, 511 Sixth av
 Sellheim, Geo. 120 Allen
 Sheridan, John, 2059 Second av
 Sherman, T. 2289 Second av
 Sherwood Bros. 170 E. 62d
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 Stritzky, Valentine, 618 E. 5th
 Stroub, John, 2822 Tenth av
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 Tipper, A. 186 William
 Titus, Oliver C. 515 Sixth av
 Tropp, Max, 14 Rivington
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 Tyler, Charles V. 945 Sixth av
 Unrein, Franz, 56 W. 28th
 Unsold, Geo. J. 604 Ninth av
 Utter, Wm. E. 734 Eighth av
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 Veidt, Herman, 94 Greenwich
 Veit, Frank, 158 E. 39th
 Voegtli, Jacob, 404 E. 57th
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 Wachenheimer, Ferdinand, 1069 Third av
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 Wagner, Joseph, 372 Seventh av

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 Worley, F. W. 2466 Eighth av
 Worley, Robt. 248 E. 104th
 Yeo, Jos. 301 W. 125th
 Yorkston, James, 497 Hudson
 Zecher, Conrad, 224 Varick
 Zeilner, Anton, 932 First av
 Zimdars & Hunt, 127 Fifth av

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 Donegan & Swift, 11 Murray
 Hall, John S. 40 Cortlandt
 Kieley, Timothy, 11 W. 13th
 Nathan Mfg. Co. 92 Liberty
 Pulver, Peter & Sons, 214 Franklin
 Roberts, Geo. I. & Bros. 471-473 Fourth av
 (see add pp. 62, 63)
 Schwartz, E. H. 23 Av. A (see add p. 106)
 Stone, Fred. & Co. 62 Gold
 Urquhart, John S. 46 Cortlandt

LUBRICATORS, AUTO- MATIC.

Donegan & Swift, 11 Murray
 Roberts, Geo. I. & Bros. 471-473 Fourth av
 (see add pp. 62, 63)

LUBRICATORS, LIGHT FEED, MFRS.

Aller, A. 109 Liberty
 Hall, John S. 40 Cortlandt
 Nathan Mfg. Co. 92 Liberty

LUMBER DEALERS AND MERCHANTS.

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 Albrow, E. D. Co. The, 200 Lewis (see add p. 95)
 Allen & Stephens, ft. W. 47th
 American Drier Co. 115 Broadway (Dry Kilns.)
 American Lumber Co. 21st and N. R.

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Mahogany, Hardwoods and Pine,
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LARGE STOCK, RELIABLE GRADES, FAIR
 PRICES.

Bader & Winslow, 19 Whitehall
 Basselin, Theo. B. 80 Wall, J. B. Stocksdale,
 Agt.
 Bayersdorf, M. 440 442 Eleventh av
 Beebe, Dillon, 15 State, 4 Pearl
 Bell Brothers, Eleventh av and 21st (see add p.
 105)
 Benedict, Grace A. Av. A c. E. 66th
 Benedict, McIlroy & Fowler, 424 E. 53d
 Boardman & Small, 129 Pearl
 Breen & Taylor, ft. W. 29th
 Brickelmaier, Peter P. 505 W. 14th
 Brown & Co. 21 Beaver
 Brumme, Alfred, 417 E. 23d
 Buckhout, Abram T. ft. E. 30th
 Bucki, Charles L. & Co. ft. W. 13th
 Budlong, Alfred W. (estate of) Eleventh av c.
 W. 22d
 Bulmer Lumber Co. Ltd. 134 Pearl
 Burdick, Isaac N. 339 West
 Burroughs, Horace F. 21 Beaver
 Bussell, E. G. 11 Doyers
 Carman, Charles B. 44 Broadway
 Carr, John F. (estate of) 543 W. 23d
 Carroll, Daniel J. 525 W. 14th
 Chandler, Sutton & Co. 46 South
 Chapin, James M. 237 Broadway
 Chellborg, C. Frederick, 19 Broadway
 Clarke, Henry M. 72 Wall
 Clarke Lumber Co. 52 Broad
 Clash, Howard T. 19 Whitehall
 Cole, Frederick W. 82 Wall
 Colwell, W. H. & Son, 2368 Third av & ft. E.
 129th
 Colwell's, James W. Sons, E. 161st n Jerome av
 Constantine, Thomas S. ft. E. 4th
 Cooney, Eekstein & Co. 168 Pearl
 Copley & Woolf, 1630 West Farms rd and 1920
 Vanderbilt av E.
 Crane & Clark, 620 W. 30th
 Creed, Wm. R. & Co. 16 Exchange pl

Telephone, 2435 "Cortlandt."

W. R. CREED & CO.,

Lumber, Spruce and Hemlock,

16 & 18 EXCHANGE PLACE,

POST BUILDING,

NEW YORK.

Dalley, John, 352 West
 Daniels & Co. 202 Centre, 213 Hester
 Danna & Pell, 24 Tompkins
 David, Tucker, 202 Eleventh av
 Decamp, W. H. 87 Dey
 Decamp & Willson, 88 Cortlandt
 Decker, A. T. & Co. ft. Bethune, N. R.
 Delatour, Albert J. 176 Cherry, 52 Monroe
 Delatour, John A. 476-478 Pearl
 Dielmann & Lincks, 517 W. 19th
 Disosway, John G. 340 W. Houston
 Dodge, Norman W. 81 New
 Dodge & Co. 15 Cortlandt
 Dodge, Meigs & Co. 45 Broadway
 Douglass, George, 317 West
 Doup, Edward R. 609 W. 24th
 Dow & Co. 150 Nassau
 Dowd, Olney B. 286 Av. A
 Dredge, W. T. 336 W. 125th
 Dubois, W. B. 24 State

Dunbar Box and Lumber Co. 282 Eleventh av
Dunbar, M. P. & Co. 18 Broadway
Duryee, Joseph W. ft. E. 35th
East River Mill & Lumber Co. ft. 92d and 93d,
E. R.
Eastern Terra Cotta Lumber Co. ft. E. 92d
Edgar, Theo. F. & Co. 80 Wall
Egan, John, 428 W. 15th
Embossed Lumber and Fibre Co. 111 B'dway
Eppinger & Russell, 160 Water
Export Lumber Co. Ltd. 142 Pearl
Fagan, Jas. 128 Mangin
Fenner, Thos. & Co. 140 Pearl
Fischer & Burnett Lumber Co. 198 Eleventh av
Flint & Co. 142 Pearl
Florida Lumber & Construction Co. 15 Wall
Foertsch, M. C. 528 W. 24th
Forbes, Charles, 262 Eleventh av
Fredericks & Smith, ft. E. 150th
Gard's, S. H. Sons, 206 Produce Ex
Gates, Church E. & Co. E. 138th n Railroad av
and West Farms rd n Bronx R
Gibson, William, 49 Tenth av
Gladding Lumber Co. 45 Broadway
Godfrey, Wilson & Co. 91 Wall
Goodrich, John I. 403 Produce Ex
Gorth's, Peter, Son, r. 109 Eldridge
Graham, John R. jr. Eleventh av c W. 30th
Graves & Steers, 19 Whitehall
Gray, Jenks & Co. Henry C. Adams, manager,
Lincoln bldg, 1-3 Union sq c 14th (see add p.
93)
Green, Garret E. 30 Thirteenth av
Hagemeyer, George & Sons, ft. E. 10th & 11th

Telephone, 273 18th St.

**GEORGE HAGEMEYER & SONS,
MAHOGANY,**

HARDWOOD LUMBER AND VENEERS.

Yards, Foot of E. 10th & E. 11th Sts.,
Office, Foot East 11th St **NEW YORK.**

Hall & Buell, 108 Water
Hammer, John J. jr. 24 Mangin
Harford Lumber Co. 115 Broadway
Haskin Wood Vulcanizing Co. 40 Wall, 327
Av. B
Hausling, F. M. 611 and 621 E. 13th
Havens, J. H. & Son, Eleventh av c W. 56th
Hawley Box and Lumber Co. 40 Gold. 402
South
Herrmann, Henry, 334 Delancy
Hilton & Dodge Lumber Co. 81 New
Hodsdon, Charles F. 744 Water
Hofferberth, Charles, 538 W. 22d
Honduras Commercial Co. 1 Broadway
Horton, William W. 158 Wooster
Hotchkiss, L. L. & Co. 28 State
Howell Bros. 115 Broadway
Hoyt, David, 276 Cherry
Hunter, Dexter, 18 Broadway
Hunter, Benn & Co. 4 Stone
Johnson, A. B. & Co. First av c E. 96th
Johnson Bros. 3 Broome, 457 Cherry
Karr, George & Co. 344 West
Kendall, James S. 19 Whitehall
Keystone Lumber Co. 18 Broadway
Kibbee, A. S. & Son. 405 Produce Ex
Kilpatrick & Roylance, 839 Eleventh av
Knapp, Alfred D. 2456 Third av
Knickerbocker Lumber Co. 35 Wall

Lamb, Richard, 1 Broadway
Langdon, Charles S. 111 Water
Lavelle, Owen, 130 Pearl
Lewis, Harry I. 24 Cotton Ex
Lingham, Junius B. 184 Eleventh av
Lowry, Robert C. & Co. 28 State
Ludington, Edwin P. 511 W. 14th
Lynch, John, Eleventh av c W. 21st
Lynch, L. B. 42-46 10th av
McCaldin Brothers, 79 Broad
McClave, John, 610 W. 22d
McClave, E. W. & Co. 16 Beaver
McCracken, R. J. & W. H. 1770 W. Farms rd
McDonough & Co. 22 Beaver
McGrath, Andrew, 371 West
McKee, George W. 435 Water
McLaurin, J. D. 80 Wall
Magee H. F. & Co. 234 West
Magovern, W. D. 198 Eleventh av
Marsh, W. E. & Co. 82 Wall
Marshall, W. L. 625 W. 29th
Mason, John S. & Co. 240 Eleventh av
Melluard & Co. 80 West
Millard & Collingwood, 280 Broadway
Millard, W. Sons, 45 Broadway
Millen, L. R. & Co. 16 Beaver
Miller, Alonzo F. 315 Produce Exchange
Murchie, Horace B. & Co. 82 Wall
Murray, Alfred J. 16 Beaver
Mutual Co. 127 Produce Exchange
Neely, John, 22 Mangin
N. Y. Lumber Drying Co. Eleventh av. c W.
29th
N. Y. Lumber & Wood Working Co. 173
Broadway
N. Y. & Santo Domingo Lumber & Mining Co.
32 Liberty
N. Y. & Southern Lumber Co. 16 Beaver
N. Y. & W. Va. Lumber Co. 59 Wall
Newell, D. C. & Sons, foot of W. 19th

The D. C. NEWELL & SONS'

Hudson River Mill and Lumber Co.,

**Nineteenth Street and Eleventh Avenue,
NEW YORK.**

See Advertisement, page 103.

Normandale Lumber Co. 81 New
N. C. Lumber Co. 92 Reade
Northrup, W. J. 597 W. 21st

W. J. NORTHRUP,

❖ LUMBER, ❖

HARDWOODS A SPECIALTY.

**No. 507 WEST 21st STREET,
NEW YORK.**

Norton & Christman, Eleventh av. c W. 22d
Ogden, E. H. & Co. ft. W. 22d
Ogden & Co. 411 Washington
Onslow Lumber Co. 1 Broadway
Parmele & Eccleston, 1 Broadway
Partridge, H. M. & Son, Eleventh av. c W. 20th
Patty, Peter, 297 Eleventh av
Patterson, Thomas G. 59 Bethune and 456
West

Peek, Eben, 24th and Eleventh av

EBEN PEEK, YELLOW PINE

Flooring, Ceiling, Wainscoting and Step Plank. Comb Grain Flooring, and High Grade Yellow Pine for Trim and Mouldings a Specialty. All Flooring, Ceiling, etc., Dressed in Planing Mill on Premises.

24th Street & 11th Avenue, N. Y.

Telephone Call, "165 18th St."

See Advertisement, page 104.

Perkins & Robinson, 1 Broadway
Price & Hart, 198 Eleventh av
Rapp & Johnson Lumber Co. ft. E. 125th
Raynor, Julius, ft. E. Houston
Reamer, Job M. 41 Park row
Reccius, W. 147 Eleventh av
Reynolds, Jesse, 524 E. 134th
Richardson, William P. 80 West
Richenstein, William, r 306 Eleventh av
Roberts & Case, 62 Broadway
Robinson & Booth, 91 Wall
Rogers, Asa L. 108 Wall
Rogers, Charles E. & Co. 108 Wall
Ross, John J. 606 W. 24th
Salaman, F. A. 29 Broadway
Saulpaugh's, M. J. Sons, 180 Lewis, 706 E. 12th

M. J. SAULPAUCH'S SONS, DEALERS IN LUMBER AND TIMBER,

706 E. 12th St., near Ave. C,
180 Lewis St., cor 5th St., NEW YORK.

White Pine, Spruce, Yellow Pine, Hemlock, Spruce Timber, North Carolina Pine, Chestnut Posts, Etc., and Dressed Lumber of all Kinds.

Schuyler, G. L. & Co. First av c E. 98th

G. L. SCHUYLER & CO.,

Lumber, Timber & Hardwoods,

FIRST AVE. & EAST RIVER,

OFFICE, N. E. COR. 98th STREET and FIRST AVE.
NEW YORK.

See Advertisement, page 102.

Seaboard Lumber Co. 3 Beaver
Shadbolt, Sydney H. 3 Bowling gr
Shepard & Morse Lumber Co. 18 Broadway

SHEPARD & MORSE LUMBER CO., FRED'K W. COLE, WHOLESALE LUMBER,

Pine, Spruce, Hardwoods. Export a Specialty.

No. 18 Broadway, NEW YORK.

Simonson, T. H. & Son, ft. E. 100th
Simpson, Clapp & Co. 129 Broad
Sizer, Robert R. & Co. 16 Exchange pl
Skillings, Whitney & Barnes Lumber Co. 80 Wall
South Brooklyn Saw Mill Co. 16 Beaver
Southard & Co. 18 Broadway
Southmayd, Frederick A. 189 Washington
Southern States Land & Lumber Co. 18 B'way
Starr, Walter D. 62 Tenth av

Steers, Abraham, 412 E. 125th
Steinmetz, W. G. 5 Beckman
Stevens, Channcey, 41 Tenth av
Stevens & Roylance, 839 Eleventh av
Stone, Frank C. 198 Eleventh av
St. Simons Lumber Co. 81 New
Sullivan Timber Co. 52 Broad
Thompson, Colin M. 15 Broad
Tolan, Simpson, Eleventh av c W. 24th
Town, F. E. & Co. 105 Exchange pl
Trimble & Co. 202 Eleventh av
Tryon, Frank, N. E. cor. 14th and Tenth av
Union Lumber Co. 10 E. 14th
Vanderbilt & Hopkins, 120 Liberty
Vanenberg, George L. Eleventh av c W. 21st
Vossnack, H. jr. & Bro. 199 Eleventh av
Walling, J. H. 72 Wall
Waterhouse & Lester, 159 Front
Watrous, Walter W. & Co. 140 Pearl
Watson, George, Rider av n E. 145th
Westchester Hardwood Co. 2580 Third av
Wetmore, Abram B. 10 W. 23d
Wheelwright, Wm. D. & Co. 82 Wall
White, Potter & Paige, 18 E. 17th
White, Rider & Frost, 15 Cortlandt
Whitney, F. B. & Co. 411 W. 15th
Wilcox, Edwin R. 53 Tompkins
Williams, Ichabod T. 221 Eleventh av
Williams, Adams & Co. ft. E. 42d, E. 138th n
Mott av, 140 Pearl
Woods, John S. 17 Broadway
Wright Lumber Co. Ltd. 144 W. 38th

WRIGHT LUMBER CO., LIMITED.

Dealers in all Kinds of

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136 to 144 WEST 38th STREET,

Bet. 7th Ave. and Broadway, NEW YORK.
P. A. SMITH, Pres. Telephone, 292 39th St.

Wyatt, Irving, 10 E. 14th
Yellow Pine Co. 16 Beaver
Youngs, William P. & Brothers, ft. E. 3d, Av.
D c E. 10th
Zeller, John W. 49 Liberty
American Drier Co. 115 Broadway (Dry Kilns.)

LUMBER DEALERS, CY- PRESS SHINGLES.

Vanderbilt & Hopkins, 120 Liberty

LUMBER DEALERS, EX- PORTERS OF LUMBER AND TIMBER.

S. A. ...South America	Countries to which the following firms principally export.
A. Australia	
W. C. West Coast	
A. F. Africa	
E. England	
G. Germany	

Adams & Co. 114 Wall
Arnold, Cheney & Co. 158 Water—A

Brunswick Lumber Co. The, 28 State
Combs, Crosby & Eddy, 78 South—S. A. and
A

Dunn, John, 76 Broadway—S. A
Gard's, S. H. Sons, 198 Eleventh av—E. G
Grace, W. R. & Co. Hanover sq—W. C
Herrman, Henry, 368 Broome, 123 Mangin—
E. G

Kendall, James S. 17 Whitehall, h—E. G
Leacycraft & Co. 142 Pearl
Mailler & Quereau, 51 Stone—A
Norton & Son, 90 Wall—S. A
Peabody, Henry & Co. 58 New—A
Pells & Co. 138 Pearl
Perdy & Huntington Co. 44 Beaver
Roberts & Case, 62 Broadway
Shepard & Morse Lumber Co. 18 Broadway
Valleau, S. 7 Rector

LUMBER DEALERS, FANCY WOODS.

American Lumber Co. 21st and North River
Dingee, P. M. & Sons, 202 Lewis
Graham, John R. jr. Eleventh av. e. W. 30th
Hagemeyer, George & Sons, ft. 10th and 11th,
E. R.

Hawes, Willard & Co. 210 and 212 Lewis
Labatut, Geo. P. 151 Centre
Monteath, Geo. H. 133 Centre
Staten Island Terra Cotta Lumber Co. 120
Broadway (see add p. 130)
Uptegrove, A. 465 E. 10th
Walker, Geo. H. 174 Centre

American Drier Co. 115 Broadway (Dry Kilns.)

LUMBER DEALERS, HARDWOOD.

Herman, H. 368 Broome
Porter, Geo. & Co. 29 Broadway

GEORGE PORTER & CO.,

Manufacturers of

HARDWOOD LUMBER,

OFFICE, No. 29 BROADWAY,
NEW YORK CITY.

Mill, Springdale, N. C. Yard, Pigeon River, N. C.

Powers, H. L. 150 Nassau
Reamer Lumber Co. Room 151, Times bldg

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Boynton, Frederick C. 23 Beaver
Brown & Co. 15 Broad
Burroughs, Horace F. 21 Beaver (Export)

Crary, Jesse D. 72 Wall. H.
Creed, W. R. & Co. 16-18 Exchange pl
Chandler, Sutton & Co. 46 South
Chellberg, C. F. 19 Broadway (cypress and yel
low pine)
Creed, W. R. & Co. 16 Exchange pl
David, Tucker, 313 Eleventh av. H
DeCamp & Wilson, 87 Dey
Du Bois, W. B. 24 State
Fielder, J. W. 59 Liberty
Gordon, T. R. 73 Park row
Hickey, Samuel C. 198 Lewis. H
Langdon, Charles S. 111 Water
Lewis, Harry I. Cotton Exchange bldg. Room
24
Milward & Co. 80 West. H
Parmele & Eccleston, 1 Broadway
Risley, Joseph H. 116 Wall
Ross, John J. 606 W. 24th. H
Russell, John W. 200 Broadway
Shepard & Morse Lumber Co. 18 Broadway
Starr, Walter D. 62 Tenth av
Tryon, Frank, n. e. cor. 14th st. and 10th av
Valleau, S. 7 Rector

LUMBER MERCHANTS, GENERAL VARI- ETY YARDS.

Allen & Stevens, ft. W. 47th
American Drier Co. 115 Broadway (Dry Kilns)
American Lumber Co. 21st and North River
Charles, Wendt, 177 Greenwich
Benedict, G. A. Av. A. c. E. 66th
Berrian, Samuel L. Riverdale av. e. Ackerman
Breen & Taylor, ft. W. 29th
Brumne, Alfred, 417 W. 23d
Buckout, Abraham T. ft. E. 28th
Buddlong, Alfred W. Estate of, 162 Eleventh av
Burdick, I. N. 339 and 340 West
Bussell, E. G. 11 Doyer
Carroll, Daniel J. 525 W. 14th
Colwell, W. H. & Sons. 2368 Third av and ft. of
E. 129th
Colwell, James W. 161st n. Jerome av
Crane & Clark, ft. W. 30th
Dally, John, 350 and 352 West
Damat & Pell, 24 Tompkins
Delatour, Geo. L. 258 Cherry
Delatour, Albert J. 178 Cherry
Delatour, John A. 476 Pearl
Disosway, John G. 70 Clarkson and 340 W.
Houston
Douglas, Geo. 317 West
Dowd, Olney, B. 286 Av. A
Dunbar Box & Lumber Co. 282 Eleventh av
Duryea, Joseph W. ft. E. 35th
East River Mill & Lumber Co. ft. of 92d and 93d
st. E. R.
Forbes, Chas. 262 Eleventh av
Gates, Church E. & Co. Railroad av e. E. 138th
Gibson, Wm. 49 Tenth av
Gorth, Peter, 101 Eldridge
Green, Garret & Co. 30 Thirteenth av
Havens, J. H. & Son, ft. W. 56th
Hodson, C. F. 744 Water

Hoyt, David, 276 Cherry
 Johnson Bros. 3 Broome and 457 Cherry
 Karr, Geo. & Co. 344 West
 Knox, Geo. H. ft. W. 139th, Edwin Foster, manager
 Ludington, E. P. 511 W. 14th
 Lynch, John, Eleventh av. c. W. 21st
 McCaldin Bros. office, 79 Broad, yard Brooklyn
 McKee, Geo. W. 435 Water
 New York Lumber & Wood Working Co. 173 Broadway
 Newell, D. C. & Son, ft. of W. 19th (see add p. 103)
 Norton & Christman, Eleventh av. c. W. 22d
 Ogden & Co. 411 Washington
 Ogden, E. H. & Co. Thirteenth av and 22d
 Partridge, Henry M. & Son, Eleventh av. & 20th
 Patry, P. 297 Eleventh av
 Patterson, Thos. G. 456 and 59 Bethune
 Saulpaugh, M. J. & Son, 180 Lewis and 706 E. 12th
 Schuyler, G. L. & Co. First av. 97th and 98th
 Shultz, Clas. P. 54 S. Fifth av
 Simonson, Thomas H. & Son, ft. E. 100th
 Steers, Abraham, ft. E. 125th
 Stevens, Chauncy, 78 Tenth av
 Thompson, Joseph R. H. 41 and 46 Tenth av
 Tolan, Simpson, Eleventh av. c. W. 24th
 Van Emberg, Geo. L. 21st and Eleventh av
 White, Potter & Page, 18 E. 17th
 Whitney, F. B. & Co. 411 W. 15th
 Wilcox, Edwin R. 53 Tompkins (ship stock)
 Williams, Ichabod T. 221 Eleventh av
 Wilson, Adams & Co. ft. E. 42d, E. 138th, n. Mott av and 140 Pearl
 Wright Lumber Co. Ltd. 144 W. 38th
 Young, Wm. P. & Brothers, ft. E. 3d and Ave. D. c. E. 10th

American Drier Co. 115 Broadway (Dry Kilns.)

LUMBER DEALERS, HARD- WOOD YARDS EXCLUSIVELY.

Ackerman, J. E. & Co. 603 W. 28th
 Albro, E. D. Co. The, 196-200 Lewis (see add p. 95)
 American Drier Company, 115 Broadway (Dry Kilns)
 Brickelmaier, P. P. 505 W. 14th
 Carr, John F. Estate of, 547 W. 23d
 Crane & Clark, foot of 30th st, N. R.
 Daniels & Co. 202 Centre
 Doup, E. R. 609 W. 24th
 Fischer & Burnett Lumber Co. 198 Eleventh av
 Foerstsich, M. C. 527-529 W. 24th
 Graham, John R. jr. s. m. Eleventh av c. W. 30th
 Hagemeyer, Geo. & Sons, ft. E. 11th

Telephone, 273 18th St.

GEORGE HAGEMEYER & SONS,
MAHOGANY,
HARDWOOD LUMBER AND VENEERS.
 Yards, Foot of E. 10th & E. 11th Sts.,
 Office, Foot East 11th St., **NEW YORK**

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 Hofferberth, Chas. 529 W. 29th and 538 W. 22d
 Kassing, Frederick S. s. m. 156 Elizabeth
 Katz, E. 214 Centre
 Mason, J. S. & Co. 240 Eleventh av
 Rayner, Julius, s. m. ft. E. Houston
 Shepard & Morse Lumber Co. 18 Broadway
 Stevens, Roylance & Co. 839 Eleventh av
 Starr, Walter D. 62 Tenth av
 Tolan, Simpson, Eleventh av. c. W. 24th
 Uptegrove, & Bro. s. m. 465 E. 10th
 American Drier Co. 115 Broadway (Dry Kilns.)

LUMBER DEALERS, LOGS, DOMESTIC AND FOR EXPORT.

Ackerman, J. E. & Co. 603 W. 28th
 Albro, E. D. Co. The, 196-200 Lewis (see add p. 95)
 American Lumber Co. 21st and North River
 Badger & Winslow, 25 Whitehall
 Brunswick Lumber Co. The, 28 State
 Copcutt, J. & Co. 440 Washington M
 Delclisur, John & Co. 16 Beaver
 Dingee, P. M. & Son, 202 Lewis M
 Gard's S. H. Sons, 198 Eleventh av
 Graham, John R. jr. 316 Eleventh av c. W. 30th M
 Hagemeyer, Geo. & Son, ft. 10th and 11th E. R.
 Herrman, H. 368 Broome and 123 Mangin
 Kassing, Frederick, 156 Elizabeth
 McLean, A. M. & Co. 158 Water
 Rayner, Julius, ft. E. Houston M
 Roberts & Case, 62 Broadway
 Rodman, Charles W. 414 E. 8th M
 Shadbolt, Sidney H. 3 Bowling gr. M
 Shepard & Morse Lumber Co. 18 Broadway
 Uptegrove, William E. & Bro. 465 E. 10th M
 Valteau, S. 7 Rector
 Williams, I. T. 221 Eleventh av M

LUMBER DEALERS, MA- HOGANY, CEDAR AND VENEERS.

Albro, E. D. Co. The, 196-200 Lewis (see add p. 95)
 American Lumber Co. 21st and North River
 Astoria Veneer Mills & Lumber Co. 120 E. 13th
 Carr, John F. Estate of, 543-547 W. 23d
 Cole, Isaac I. & Sons, 427 E. 8th
 Constantine, Thos. S. c. 4th and Lewis
 Copcutt, J. & Co. 440 Washington
 Daniels & Co. 202 Centre
 Dannat & Pell, 24 Tompkins
 Delatour, John A. 476 Pearl
 Dingee, P. M. & Sons. 202 Lewis
 Graham, John R. jr. Eleventh av c. W. 30th
 Hagemeyer, Geo. ft. E. 11th

Lumber Dealers, Piling and Timber.—Lumber Dealers, Railroad Lumber and Ties.—

Lumber Dealers, Redwood.—Lumber Dealers, Spars.—Lumber Dealers,
Staves.

Hawes, Willard & Co. 210 and 212 Lewis
 Hickey, S. C. 198 Lewis
 Kassing, Frederick, 156 Elizabeth
 Katz, Emanuel, 214 Centre
 Marshall, W. L. 625 W. 29th
 Monteath, John H. 133 Centre
 Rayner, Julius, ft. E Houston
 Rodman, Chas. W. 414 E. 8th
 Shadbolt, Sidney (logs), 3 Bowling gr
 Uptegrove, William E. & Bro. 465 E. 10th

Wm. E. Uptegrove.

Jerome P. Uptegrove.

WM. E. UPTEGROVE & BRO.**MAHOGANY**

In Logs or Lumber, Cabinet Woods, Including Domestic
 Thin Lumber or Veneers for Inside House Trimmings,
 Piano Case Work, &c. French Burl and other Veneers.

Office and Warehouse, 465-467 East 10th St., N. Y.

Saw Mills & Yards,

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Walker, Geo. H. 174 Centre

Walling, E. P. 72 Wall

Ward, J. O. 37 South

Williams, I. T. 221 Eleventh av

American Drier Co. 115 Broadway (Dry Kilns.)

**LUMBER DEALERS,
NORTH CAROLINA PINE.**Godfrey, Wilson & Co. 91 Wall p. m. and yard
at GaspointGreene, Tweed & Co. 83 Chambers (see add p.
53)

Hodson, C. F. 738 Water

Lamb, Richard, 1 Broadway

Parnele & Eccleston, 1 Broadway

Peck, Eben, 24th st. and 11th av (see add p. 104)

Roberts & Case, 62 Broadway

Robinson & Booth, 91 Wall

Seaboard Lumber Co. 12 Broadway

Sizer, R. R. & Co. 16 Exchange pl

The Perego Lumber Co. 52 Broadway

Wright Lumber Co. Ltd. 136-144 W. 38th

**LUMBER DEALERS, PIL-
ING AND TIMBER.**

Carman, Chas. B. 44 Broadway

Decamp & Willson, 88 Cortlandt

Dunbar, M. P. & Co. 18 Broadway

Forbes, Charles C. 11th av. cor. 24th

Goodrich, John I. Produce Exchange

Henry, Archibald T. 21 Coenties st

Johnson Brothers foot of Broome st, E. R.

Murray, Alfred J. 16 Beaver

Roberts & Case, 62 Broadway

**LUMBER DEALERS, RAIL-
ROAD LUMBER AND TIES.**

Roberts & Case, 62 Broadway

Vanderbilt & Hopkins, 120 Liberty

**LUMBER DEALERS, RED-
WOOD.**Albro, E. D. Co. The, 196-200 Lewis (see add
p. 95)American Lumber Co. 21st and North River
Carr. John F. Estate of, agent Cal. Redwood
Assn. 547 W. 23d

Crane & Clark, ft. W. 30th

Southard & Co. 18 Broadway

Williams, I. T. 221 Eleventh av

American Drier Co. 115 Broadway (Dry Kilns.)

**LUMBER DEALERS,
SPARS.**

Poillon, C. & R. 224 South

Winant, Cornelius, 241 South

**LUMBER DEALERS,
STAVES.**

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DuBois, W. B. 24 State

Dutton & Townsend, 46 Beaver and 430 Eighth

Keys, Jesse G. 268 Cherry

Palmer, Lowell M. 181 Front

Romaine & Co. 84 Beaver, yard 71 E. 4th

Standard Stave and Cooperage Co. 16 State,
Boston, Mass. (see add p. 77)

Waydell & Co. 21 Old sl

**LUMBER DEALERS,
WHOLESALE AND COMMIS-
SION, SPRUCE AND
HEMLOCK.**

American Lumber Co. 21st and North River

Boardman & Small, 129 Pearl

Basselin, Theo. B., J. P. Stocksdales, agent,
80 Wall

Bell Bros. Eleventh av and 21st (see add p. 105)

Creed, W. R. & Co. 16 Exchange pl

Chandler, Sutton & Co. 46 South

Chase, Talbot & Co. 32 South

Dalley, John, 352 West

Dunbar, M. P. & Co. 18 Broadway

Dodge, Meigs & Co. 45 Broadway

McAmbley, C. F. & Co., J. P. Stocksdales,
agent, 80 WallMcClellan & Mell, J. P. Stocksdales, agent, 80
Wall

Murchie, Horace B. & Co. 82 Wall

Newell, D. C. Sons, ft. W. 19th (see add p. 103)

Rawson, Horace B. & Co. 45 South

Roberts & Case, 62 Broadway

Seammell Bros. 29 Beaver

Shepard & Morse Lumber Co. 18 Broadway

Simpson, Clapp & Co. 129 Broad
Stockdale, J. P. & Co. 80 Wall
Weed, James B. & Co., J. P. Stockdale,
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Dodge, Meigs & Co. 45 Broadway. H
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Dunbar, M. P. & Co. 18 Broadway
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Fischer & Burnett Lumber Co. 198 Eleventh
av H
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Genet, L. F. 124 W. 23d H
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Higgins Bros. 124 W. 23d H
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The Brunswick Lumber Co. 28 State. H
The Left Lumber Co. World bldg.
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Vanderbilt & Hopkins, 120 Liberty H
Walling, E. P. 72 Wall H
Walling Lumber Co. World bldg.
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Gray, Jenks & Co. 3 Union sq. (see add p. 93)
Newell, D. C. & Sons, ft. W. 19th (see add p.
103)
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Lumber Dealers, Yellow Pine, &c.] 427

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Roberts & Case, 62 Broadway
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Greene, Tweed & Co. 83 Chambers (see add p. 53)
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Mimer, Stanley H. 16 Beaver
Moore, Patrick, Eleventh av e W. 24th
Northrup, William J. 507 W. 21st
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Shillito, Thos. H. 26 South
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Headquarters 18 Broadway, room 303, telephone call, 2305 Cortlandt

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Hodsdon, C. F. 738 Cherry
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 American Special Machine Co. 83 Reade
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 Gates Iron Works, 136 Liberty
 Gesswem, F. W. Est. of, 39 John
 Gleason, Robert W. 71 Rutgers
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 Hawthorne & Co. 12 Cortlandt
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 Hopkins, David A. 113 Liberty
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 Hornellsville Machine Works, 115 Broadway
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 Hubbard, Norman, 93-97 Pearl, Brooklyn (see
 add p. 55)
 Huckel, John F. 38 Park row
 Hungerford Co. 67 Pearl
 Hunt, C. W. Co. 45 Broadway
 Huyett & Smith Mfg. Co. 107 Liberty
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 Idell, F. E. 41 Dey
 Innet, Edwin S. 15 Cortlandt
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 Isbell-Porter Co. 245 Broadway
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 Joyce, John, 200 Centre
 July & Montanus, 125 Water
 Kilby Mfg. Co. 143 Liberty
 Kinne, Geo. O. 234 Broadway
 Koberlein, F. 508 W. 24th (see add p. 53)
 Koenigsberg, Joseph, 213 E. 54th
 Krajewski & Pesant, 35 Broadway
 Krom, Stephen R. 151 Centre
 Lathrop Co. 80 John
 Law, Jesse L. 27 South
 Leaycraft, E. S. & Son, 44 Dey
 Leonard & McCoy, 118 Liberty
 Levy, Chas. H. 529 Broadway
 Liberty Machine Works, 54 Frankfort
 Lidgerwood Mfg. Co. 96 Liberty (see add p. front inside cover)
 Link Belt Engineering Co. 49 Dey
 Little, Charles E. 59 Fulton (see add p. 101)
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 Lockett, Chas. H. 35 Broadway
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 Long & Allstatter Co. 136 Liberty
 McCabc, James J. 68 Cortlandt
 McCaslin Machine Co. 45 Broadway
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 Manufacturers' Governor Co. 25 John
 Mason, Marens & Co. 333 Produce Ex
 Maynard, John Q. 114 Liberty (see add p. 20)
 Mellert Foundry and Machine Co. 160 B'dwy
 Merz Universal Extractor and Construction Co. 788 Broadway
 Montague & Fuller, 28 Reade
 Montgomery & Co. 105 Fulton
 Morgan Engineering Co. 136 Liberty
 Morrison, Jas. L. 17 Astor pl, 140 E. 8th
 Morrison, W. G. & A. R. Co. 74 Grand
 Muller, Jacob, 418-420 E. 62d (see add p. 52)
 Nafew, Samuel, 150 Nassau
 National Automatic Machine Co. 60 Murray
 National Embossing Machine Co. 290 Washington
 National Machine Co. 385 Broadway
 Nebel, M. A. 90 Crosby
 Newell Universal Mill Co. 136 Liberty
 N. American Metaline Co. 165 Greenwich
 N. Y. Automatic Machine Co. 114 Nassau
 N. Y. Laundry Works, 78 Murray
 N. Y. Machine Depot, 16 Frankfort
 N. Y. Pattern Machine and Die Co. 442 Water
 N. Y. Street Cleaning Machinery Co. 439 Produce Ex
 Oakley & Keating, 40 Cortlandt
 Ostler, William C. 43 Exchange pl
 Oil Well Supply Co. 32 Cortlandt
 Page, Geo. S. 69 Wall
 Parson Supply Co. 54 Pine
 Patten, John, Mfg. Co. 15 Broad
 Patterson, Gottfried & Hunter, Ltd. 150 Centre, 115 Walker
 Perfection Oil Purifier Co. 136 Liberty
 Phillips, Edward G. 28 Cliff
 Phoenix Iron Co. 10 W. 23d
 Pictet Artificial Ice Co. Ltd. 21 Cortlandt

Pierce & Noble, 95 Nassau
 Pilot Machine Co. 358 Canal
 Place, Geo. Machine Co. 120 Broadway
 Pneumatic Pulverizer Co. 21 Park row
 Pollock, Alexander, 15 Cortlandt
 Pond Machine Tool Co. 113 Liberty
 Pontifex Ice Machine Co. 120 Broadway
 Prentiss Tool and Supply Co. 115 Liberty
 Prindle, R. S. 20 Cedar
 Prong Moulding Machine Co. 120 Broadway
 Prybyle, P. 512-524 W. 41st
 Putnam Machine Co. 115 Liberty
 Rand Drill Co. 23 Park pl (see add p. 3)
 Randolph Shafting Trust Co. 280 Broadway
 Rau, Emanuel, Mfg. Co. 51 Liberty
 Richards, Eugene R. 112 Liberty
 Richards, Theron A. 75 Fulton
 Rogers C. B. & Co. 109 Liberty
 Rogers, J. F. & Co. 107 Liberty
 Runkle, William, 160 Broadway
 Salem Foundry and Machine Shops, Salem, Mass. F. E. Idell, agent, 41 Dey
 Sanborn, Geo. H. & Sons, 69 Beekman
 Sargent, Wm. 77-79 Rutgers st
 Saxton, J. C. 52 Broadway
 Scharff Mfg. Co. 41 Park row
 Schenck, Samuel P. 9 Spruce
 Scott, George A. 18 Broadway
 Sheridan, T. W. & C. B. 25 Centre, 2-6 Reade
 Simmons W. Seabury, 56 Worth
 Simplex Mfg. Co. 38 Park row
 Singer Elevator Safety Stop Co. 74 Fulton
 Skillton & Son, 31 Broadway
 Slagelse Mfg. Co. 55 Murray
 Smith, Chas. F. 19 Whitehall
 Smith, Frank B. 45 Dey
 Smith, H. B. Machine Co. 121 Liberty
 Snelling, John H. 155 South
 Spencer, Edward E. & Co. 34 Warren
 Sprague & Terhune, 210 Centre, 291 Monroe
 Stanbach, Baldwin, 652 E. 12th, 236 Greenwich
 Steam Regulator Co. 74 Cortlandt
 Steinmetz, C. M. & Co. 5 Beekman
 Stephens, Melvin, 41 Dey
 Stevenson, Thos. F. 15 Cortlandt
 Stimpson, E. B. & Son, 31 Spruce
 Stratton Separator Co. 32 Cortlandt
 Sturtevant, B. F. Co. 91 Liberty
 Sturtevant Mill Co. 140 Maiden la
 Tabor Mfg. Co. 111 Liberty
 Takata & Co. 18 Broadway
 Taylor, O. H. 494 Water
 Terhune, A. V. 210 Centre
 Thacher, W. H. & Co. 35 Warren
 Todd, Joseph C. 36 Dey
 Tropical Ice Machine Co. 126 Liberty
 Troy Laundry Machinery Co. 15 Warren
 Tucker, C. H. jr. & Bro. 126 Liberty
 Union Iron Works, 29 Broadway
 Universal Joint Co. 30 Broad
 Valentine, Lincoln, 345 Produce Ex
 Van Brunt, Cornelius, 74 Cortlandt
 Vincent, Chas. R. & Co. 15 Cortlandt
 Volk, H. E. 32 John
 Walsh, Frank J. 45 Broadway
 Walter, William & Co. 652 Hudson
 Watertown Steam Blower Co. 54 Pine
 Watson & Stillman, 204-210 E. 43d
 Welch & Lawson, 203-205 Centre
 West Point Foundry Co. 45 Broadway
 West Side Machine and Mfg. Co. 433-435 W. 42d

Machinery, Hoisting and Conveying.—Machines, Gas, Manufacturers.—Machines,
Pipe Bending.—Machines, Pipe Cutting.

WATSON & STILLMAN, HYDRAULIC TOOLS

FOR ALL PURPOSES.

Nos. 204 to 210 EAST 43d STREET,

NEW YORK.

See Advertisement, opposite page 326.

Wheeler Condenser and Engineering Co. 92
Liberty
Whitcomb, Jas. O. 50 Centre
Whitchill Motor Co. 60 Laight
Whittier Machine Co. 93 Liberty, John Helmer,
Mgr
Wilkins, Monroe P. 46 Marion
Williams Automatic Mach. Co. 127 Worth
Williams, John R. Co. 102 Chambers
Wilson & Roake, 261 Front
Wing, L. J. & Co. 126 Liberty
Woods, S. A. Mach. Co. 91 Liberty
Woodworth, Geo. D. 164 Water
Worthington, Henry R. 86-88 Liberty
Yanyan Co. 41 Park row
Young, Edward L. 2 Wall
Young & Farrell Diamond Stone Sawing Co.
Railroad av and 138th
Young-Brennan Crusher Co. 42 Cortlandt

MACHINERY, DREDGING AND EXCAVATING.

Bucyrus Steam Shovel and Dredge Co. 15
Broad
Cook, W. A. 120 Liberty
Edwards, Jos. & Co. 41 Wall
Lidgerwood Mfg. Co. 96 Liberty (see add front
inside cover)
Morris & Cummings Dredging Co. 45 Duane
Osgood Dredge Co. 38 Park row
Phoenix Iron Co. 10 W. 23d

MACHINERY, HOISTING AND CONVEYING.

Copeland & Bacon, 85 Liberty
Edwards, Jos. & Co. 412 Water
Howard Foundry and Machine Works, 17 So.
18th, Philadelphia, Pa.; N. Y. Office, J. Q.
Maynard, Agt. 114 Liberty (see add p. 19)
Lidgerwood Mfg. Co. 96 Liberty (see add front
inside cover)
Maynard, John Q. 114 Liberty (see add p. 20)
Morse, Williams & Co. 108 Liberty, John Keir,
Mgr. (see add p. 11)
Otis Brothers & Co. Potter bldg, 38 Park row
(see add p. 10)
Phoenix Iron Co. 10 W. 23d
Pollack, Alexander, 15 Cortlandt
Shriver, T. & Co. 333 E. 56th (see add p. 14)
Springfield Foundry Co. Springfield, Mass.
New York office, Equitable bldg, room 12,
4th floor (see add p. 16)

Standard Elevator Co. Chicago offices, 320
Dearborn; New York offices, 150 Broadway
(see add p. 13)
Whittier Machine Co. 93 Liberty, John Helmer,
manager

MACHINES, GAS, MFRS.

Denny Bros. 36 Park pl
Detroit Heating and Lighting Co. 114 Liberty
(see add p. 144)
Gilbert & Barker Mfg. Co. 90 John
Hanhorn & Co. 114 Liberty
Manning, A. C. & Co. 18 Vesey (see add p. 15)
National Gas Investment Co. 115 Broadway
National Meter Co. 252 Broadway
Penn. Globe Gas Light Co. 115 Broadway
Phelps & Dingle, 45 Dey
Standard Gas Machine Co. 52 Broad
Tirrill, O. 39 Dey (see add p. 58)

MACHINES, PIPE BEND- ING.

Billings Pipe Bender Mfg. Co. The, 42 Park pl
Electric Pipe Bending Machine Co. 115 B'dway
Pollock, Alexander, 15 Cortlandt

MACHINES, PIPE CUTTING

Backus, Peter & Son, 133-135 W. 25th (see add
p. 64)
Eaton, Cole & Burnham, 82 Fulton
Pollack, Alexander, 15 Cortlandt

MACHINISTS.

Abele, Christian, 537 W. 50th
Acton, John, 193 Worth
Adreance, Garret, 100 Nassau
Allen, John F. 221 Rider av
Allman, Isaac F. 63 Beach
Alsing, J. R. Co. 62 New
American Wood Decor. Mach. Co. 290 Wash-
ington
Anderson, P. & Co. 207 E. 23d
Arens, Herman, 240 Eighth av
Arthur Co. 86 John
Backus, Peter & Son, 133-135 W. 25th (see add
p. 64)
Barbey & Rickenman, 1 Thompson
Bauman, Anton, 45 W. 3d
Becker, W. F. & Co. 172 W. Broadway
Beckett Foundry & Mach. Co. 120 Liberty
Bell, W. R. 765 Columbus av
Bender, P. J. & Sons, 95 Cliff
Benton & Keys, 408 Bleecker and 291 W. 11th
Bergeron, Celestin, 35 W. 3d
Blake & Williams, 197 Wooster (see add p. 65)
Blake, John, 449 E. 13th
Blasi, John N. 54 W. Broadway (see add p. 53)

Bohsert, Frederick, r. 387 Bowery
 Boiset, Peter, 185 Wooster
 Bouden, W. H. 155 W. 29th
 Boulter, James, 57 John
 Boyd, A. & Co. 138 Lewis
 Braidwood, William, 213 Centre
 Bramberg, Chas. 91 Cliff
 Brandon, James, 390 Eleventh av
 Brantigan, Joseph A. 143 Elm
 Brash, Thomas, 38 Bethune
 Brown, A. & F. 17 Dey
 Brueche & Kruff, 14 Howard
 Brush & Voeling, 420 W. 27th
 Buisson, Ignatz, 108 So. Fifth av
 Bulasky, Lewis, 82 Spring
 Burhans, Lorenzo, 164 Maiden la
 Burns, Jabez & Sons, 3 Worth
 Cairns, William & Son, 93 Elizabeth
 Cameron, John, 156 W. Broadway
 Carey, Samuel, 12 Pearl
 Carnie, John A. 223 West
 Carroll, Jas. T. rear 41 Centre
 Carter, William H. 479 E. 136th
 Castrischer, Jas. 102 So. Fifth av
 Cavagnaro, J. & F. 216 Centre
 Chappell, Geo. F. 86 Pike
 Chilton Bros. 369 Canal
 Christie, Walter, 173 Christopher
 Christman William, 21 Ann
 Clash, Richard J. 5 and 9 Elm
 Cook, Chas, 213 Centre
 Cooke & Co. 22 Cortlandt
 Copeland & Bacon, 85 Liberty
 Corbett, Joseph, 90 Crosby
 Cotton, W. W. & Son, rear 41 Centre
 Cranston & Jones, 167 Wooster
 Creter, George, 90 Walker
 Cuning, Mari A. 163 Mereer
 Cummings & Brandon, 390 Eleventh av. and
 1441 Broadway
 Curtis, Chas. L. 143 Centre
 Dame & Townsend Co. 29 Platt
 Dancel, Christian, 186 Grand
 Davids Machine Works, 129 Worth and 75 Cen-
 tre
 De Beauvais, Jules, 2 and 4 Howard
 Deeley, Robert & Co. ft. W. 32d
 De Lamater, Iron Works, 21 Cortlandt (see add
 p. 57)
 Denahan, Richard A. 126 W. 17th
 Denney, Harmer, 23 Vandewater
 Didier, Jos. A. 149 Baxter
 Dickhans, Henry, 159 Mott
 Dilg, Chris. 191 Worth
 Dill, J. T. 117 Walker

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Pulleys, Hangers and all Kinds of Running
 Gear my Specialties.

117 Walker Street, NEW YORK.

Disnosky, Chas. 218 Centre
 Dobler, Chas. 335 W. 36th
 Dohmann, George H. 1441 Third av
 Dont, Henry F. 213 Centre
 Dowdall, Margaret, 52 W. Broadway
 Dudgeon, R. 26 Columbia
 Ebert, L. 52 W. 3d
 Ecaubert, Frederick, 30 Rose

Eddy, George B. 398 Madison
 Edwards, Jos. & Co. 414 Water
 Eglan, Frank, 118 Pitt
 Ehraur & Harding, 236 E. 63d
 Ellis, Wm. F. 174 Centre
 Elterich, Chas. 191 Worth
 Emmerich & Vonderlehr, 193 Worth
 Engesser, Joseph, 3470 Third av
 Erb, Francis, 159 South
 Erlandsen, Napoleon, 172 Centre
 Ermold, Edward, 652 Hudson
 Eustace, Edward C. 54 Centre
 Faulkner, G. 57 John
 Feher, Martin, 436 E. 16th
 Feilbom, Moutz, 892 First av
 Fiala, A. & E. 207 Centre
 Fischer, Jacob, 130 Liberty
 Fisk, Charles H. 291 W. 11th
 Foerster, Emanuel, 403 E. 108th
 Foster & O'Dair, 2 Howard
 Fowler & Rockwell, 9 Elizabeth
 Fox, Benjamin J. 513 W. 34th
 Freese, Enno, rear 142 Essex
 Fretts, Frederick, 212 E. 9th
 Fritsche, Max, 191 Worth
 Fuchs, John F. 24 Ave. A
 Fyfe, Robert, 415 W. 48th
 Garcia, Joseph, 369 Pearl
 Gardner, Frank A. 652 Hudson
 Garvin Machine Co. 9-11 Laight
 Genoy, Michael, 10 Park pl (see add p. 52)
 Gernhardt, Joseph, H. 108 Liberty
 Gilbert, Frank W. 161 Washington
 Gilloon, Joseph A. 137 W. Broadway
 Gordon, Bernard, 9 Pitt
 Graf, Jean, 1365 Third av
 Gray, Robt. J. Park av. and 131st
 Gregory, James, cor. Cannon and Stanton
 Gress, E. J. 324 E. 59th
 Griffith, Joseph G. 144 Centre
 Grimm, Jacob, 220 Centre
 Grulman, Joseph, 200 Grand
 Grunow, William, jr, 204 E. 43d
 Guenther, Edward, r. 542 W. 36th
 Gurndel, Anton, 462 Eleventh av
 Haase, Gustav J. 130 Worth
 Hackett, John, 41 Centre
 Hallefas, William J. 259 Front
 Hampson, Edward P. & Co. 36 Cortlandt
 Hancock, Henry J. 184 Lewis
 Harris, George W. r. 518 W. 35th
 Harris, R. Duncan, 127-129 W. 32d
 Hawes, H. E. 121 Centre
 Hawthorn & Finn, 258 Eleventh
 Hentze, Eugene E. 352 E. 52d
 Hill, Francis, J. 213 Centre
 Hincheliff, Henry, 136 Centre
 Hindle & Wright, 22 Beekman
 Hinz, Carl, 312 W. 41st
 Hochziat, Frank, 121 W. Broadway
 Hoehn, W. F. 263 W. 17th
 Hoffman & Fisher, 12 Morris
 Homan, J. & E. 130 So. Fifth av
 Hoppen, Joseph E. 508 Pearl
 Howard Foundry and Machine Works, 114 Lib-
 erty (see add p. 19)
 Hubbard, Norman, 93-97 Pearl st. B'klyn (see
 add p. 55)
 Hubert, Baptiste, 174 Worth
 Hubner, Herman G. 63 Elizabeth
 Hudner, Frank J. 208 E. 23d
 Hufeland, P. 212 Centre

Hughes Bros. 75 Frankfort
Husslein, G. 606 Eighth av

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Jobbing in all its Branches.

Hvass, Charles, 509 E. 18th
Innes, James, 439 E. 92d
Innes', John, Son, 453 West
Ippich, Rudolph, 173 Prince
Jackson, Thaddeus A. 654 W. 34th
Jalowitz, Mary, 52 Suffolk
Jeffrey, Mfg. Co. 15 Cortlandt
Jennings, Patrick J. 733 First av
Johnson, John A. 89 E. 4th
Jungermann Bros. 240 W. 27th
Kampfer, Rudolph, 259 Front
Karron, Hyman, 62 Bayard
Katzenstein, L. & Co. 357 West
Kelton, Merrill M. 124 Baxter
Kent, James W. r 41 Centre
Killerlane & Ryder, 239-241 West
Kinniss, E. & Co. 94 Clinton
Kissinger, Jacob, 18 Dutch
Klein, Gottlieb, 602 E. 11th
Komp, Albert, 496 Cherry
Komp Machine Co. 496 Cherry
Korth, Chas. G. 226 E. 83d
Kramer, Martin, 17 Thompson
Krauss, Martin, 419 E. 15th
Kuhn, Michael G. 214 Centre
Lachner, Christian, 113 Reade
Laing, Thos. J. 196 W. Houston

T. J. LAING,
MACHINIST,

196 WEST HOUSTON ST.,

Near Varick Street, NEW YORK.

See Advertisement, page 52.

Lambert, John M. 60 Murray
Lang, Charles F. & F. H. 507 W. 50th
Lazell, J. 99 Cliff
Lee, Joseph. 6 Reade
Leech, Robert D. 144 Centre
Lehmann & Metzger, 149 Baxter
Leonhardt, Albert, 295 Delaney
Levin, Louis, 92 Ludlow
Lieb, Chas. A. 23 Vandewater
Lieb, George, 16 Frankfort
Liebe, Chas. 30 Great Jones
Lightowler, Oliver, 415 W. 48th
Lindh & Teden, 13 Vandewater
Love, W. & G. W. 141 Elm
Loyd, John, 560 Water
Luckhoff, Adolph, 26 Rose
Lugenbuehl, Chas. r 261 W. 27th
McCullough, E. 63 Watts
McCullum, H. J. 40 Eldridge
McCurry & Warden, 276 West
McDougall, Christopher, 532 W. 28th
McDougall & Potter, 610 W. 55th
McFane & Seddon, 560 W. 34th

McKenzie, William, 110 Trinity pl
McLean, John, 298 Monroe
McQueed, Charles, 102 So. Fifth av
Mason & Ranch, 47 Centre
Mattern, George, 34 Clinton pl.
Mayer, Chas. G. 744 Broadway
Meyer, Edward, 63 Grand
Meyer, Frederick, 207 Centre
Meyerson, Herman, 42 Attorney
Milliken & D'Amour, 51 John
Moebins, Louis, 8 Gold
Monthemont, Emil, 117 Walker
Moore, Thomas, 80 Elm
Moss & Graham, 139 Elm
Mueller, David, 173 Prince
Muller, Jacob, 418 E. 62d

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Shafting, Pulleys and Hangers a Specialty.

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TELEPHONE CALL 35 79th St.

See Advertisement, page 52.

Mundt, Chas. & Sons, 90 Walker (see add p-
52)
Murphy, T. J. & Co. 1657 Third av
Nebel, Martin A. 90 Crosby
Nehrbass, Andrew, 127 Elm
Neubert, E. 26 Greenwich av
O'Brien, James H. 85 New Chambers
Olmesdahl, August, r 41 Centre
Otte, Ernest, 117 Walker
Panse & Gnadt, 175 Grand
Parks, J. B. 130 Worth
Paul & Kuhl, r 124 E. 129th
Pedersen, John T. 158 W. 27th
Perdreux, Emil, r 142 Wooster
Pettengill, Daniel G. r 268 Water
Philippi, Jacob, 236 E. 63d
Philip, Andrew, 29 West
Pierce, Chas. D. 127 Pearl
Pilgram, Morris, 17 Bond
Pomeroy & Hall, 177 Grand
Popping, Joseph, Eleventh av and 58th
Priester, Chas. 92 White
Pryibil, P. 518 W. 41st
Purvis, Edward, 43 Duane
Rae, Robert, 442 Water
Rathbun, J. P. & Co. 51 Vesey
Rau, Martin, 39 Centre

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with or without Ink Attachment, and New Patent Gas
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Red Fort Iron Works, 239-241 West
Reed, James H. 144 Centre
Rees & Co. 157 Norfolk
Reinhardt Bros. 1588 Broadway
Remacle, Leopold L. 4 Howard
Ricardo, George, 195 Water
Richard, John E. 144 Wooster
Richards, Theron A. 75 Fulton

Richter, Herman, 207 Centre
 Riggins, Geo. B. 131 Av. D
 Rilling, Charles, 520 W. 35th
 Rivers, Charles N. 352 Pearl
 Roberts, E. L. & Bro. 143 Elm
 Roberts, John, 391 Fourth av
 Rothenbucher, George, 462 Tenth av
 Rubeneamp & Lynch, 49 W. Broadway
 Ruhle & Schleicher, 343 W. 37th
 Rushworth, John, 246 W. 27th
 Sandstrom, William, 381 Greenwich
 Schapper, Albert, 182 W. Houston
 Schmitt, Chas. & Son, r 41 Centre
 Schneider, Carl, 222 Centre
 Schrade & Priester, 92 White
 Searing, T. J. 196 W. Houston
 Seely & Lewthwaite, 126 Worth
 Seligman, Samuel, 492 Sixth av
 Shaw Bros. 4 Liberty pl
 Sheffler, Eugene, 207 Centre
 Schwartz, M. 143 Madison
 Sittmann & Pitt, r 41 Centre
 Sommerville, John, 27½ Clark
 Sparr Propeller Co. 62 Liberty
 Spiess, Frederick, 224 E. 42d
 Spoffard, Charles, 314 E. 22d
 Stiles & Parker Press Co. 207 Centre
 Stone, Chas. B. 28 White
 Stubbe, Frederick H. 528 Morris av
 Sturm & Ricnast, 147 Baxter
 Sturmer, Louis, 261 W. 30th
 Sullivan, John W. 385 South
 Swanson, Levi, 652 Hudson
 Swift, Joshua E. 173 Christopher
 Thompson, Frank, 178 Centre
 Tierney, Edward F. 352 E. 53d

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Tinsley, G. J. 491 E. 138th
 Tisch, Louis, 142 Centre
 Todd, Joseph C. 36 Dey
 Van Allens & Boughton, 59 Ann, 17 Rose
 Vandorn, James W. 25 Centre
 Veidt, H. 94 Greenwich
 Vice, George, 144 Centre
 Vickers, J. W. & Co. 3 Staples
 Viyon, Edward T. 129 Liberty
 Voitek, John S. 51 Ann
 Voss & Evans, 420 E. 53d
 Wadsworth, Cladins, 90 Fulton
 Walker, Edward, 170 Fulton
 Walter, William, 158 W. 27th
 Watson & Stillman, 204-210 E. 43d (see add
 opposite p. 326)
 Weed, A. J. & Co. 108 Liberty
 Welsh, Fred, 99 Watts
 Wescott & Co. 19 Thames
 White, David H. 150 E. Broadway
 Whitford, James, 9 Spruce
 Wilberg, Pete, 137 Elm
 Wickham, G. A. & Co. 58 Centre
 Wieks, George W. & Son. 174 Centre
 Wiebke, Chas. 215 Centre
 Wilbur, James M. 36 Clinton pl
 Wilkins, Monroe P. 46 Marion

Williams, David T. 13 Spruce
 Wilson, James E. 433 W. 42d
 Winter, Louis F. 418 W. 27th
 Witzel, Andrew, r 307 E. 122d
 Wolf, John G. 166 Greenwich
 Zelfas, Joseph, 157 E. 57th
 Zundorff, John, 13 Bleecker

MACHINISTS' TOOLS AND SUPPLIES.

Aller, A. 109 Liberty
 Armstrong Mfg. Co. 242 Canal
 Ashcroft Mfg Co. 111 Liberty
 Backus, Peter & Son, 133-135 W. 25th (see add
 p. 64)
 Barr, Edward Co. Ltd. 78 John
 Beggs, James & Co. 9 Dey
 Bell, Geo. E. 36 John
 Behringer & McCoy, 96 Centre
 Blum, B. Co. 7 Dey
 Carolan & Co. 110 Reade
 Carr, A. & W. S. Co. 138-140 Centre
 Church & Sleight, 109 Fulton
 Cooke & Co. 163 Washington
 Couse, Charles & Co. 37 Dey
 Craft, Jessie, 260 Front
 Crook, Horner & Co. 34 Dey
 Cunningham, Edward (second hand tools), 60
 Centre
 Davis Level and Tool Co. 79 Chambers
 Dienst, Adam P. 6 Reade
 Donegan & Swift, 11 Murray
 Durbrow & Hearne, 357 Canal
 Eckel, Frederick, 16 Burling sl
 Frasse, Peter A. & Co. 95-97 Fulton
 Frasse & Co. (tools, etc.), 92 Park row
 Garvin, E. E. & Co. Laight and Canal
 Gilbert, Frank W. 6 Reade
 Greeley, E. S. & Co. The, 5-7 Dey
 Greene, Tweed & Co. 83 Chambers (see add p.
 53)
 Hall, John S. (specialties) 40 Cortlandt
 Howard Foundry and Machine Co. 114 Liberty
 (see add p. 19)
 Hull, Grippen & Co. 310-312 Third av
 Jackson, T. A. (diamond tools) 654 W. 34th
 Jamer, Jacob, 84 John
 Joyce, E. T. 3 Dutch
 Kearney, & Foote Co. 100 Reade
 Kelley, Benj. F. & Son, 91 Liberty (see add p.
 61)
 Lathrop Co. 80 John
 Leonard & McCoy, 118 Liberty
 Little, Chas. E. 59 Fulton (see add p. 101)
 Lovejoy, John F. & Co. 102 Chambers
 Manning, Maxwell & Moore, 111-113 Liberty
 McClain Bros. 169 Spring
 McCoy, Jas. F. Co. 26 Warren
 Milliken Bros. 55 Liberty
 Montgomery & Co. 105 Fulton
 Moore, G. T. 112 Chambers
 Motley, Thornton N. & Co. 43 John
 New York Belting and Paeking Co. 15 Park
 row (see add front inside cover)
 Niles Tool Works, 98 Liberty
 Patterson Bros. 27 Park row
 Patterson, Gotfried & Hunter, Ltd. 146-150
 Centre

Magnesia Pipe & Boiler Coverings.] 436

[Mantels, Grates and Fenders.

Mail Chutes for Buildings.—Malleable Iron Castings.—Mantels, Brass, Bronze, Iron and Metal.

Place, Geo. 120 Broadway
Pollock, Alex. 15 Cortlandt
Pond Mach. Tool Co. 111 Liberty
Pratt, James T. & Co. 53 Fulton, 42 Cliff
Prentiss Tool and Supply Co. 115 Liberty
Putnam Mach. Co. 115 Liberty
Pyribil, P. 512-524 W. 41st
Reichhelm, E. P. & Co. 80 Nassau
Roberts, Geo. I. & Bros. 471-473 Fourth av (see add pp. 62, 63)
Rogers, H. A. 19 John
Rogers, J. F. & Co. 107 Liberty
Sargent, Wm. 77-79 Rutgers st
Sass, John F. 41 Dey
Saxton, J. C. 52 Broadway
Smith, R. C. (calculating instruments), 1 B'way
Sondheimer, Frederick, 221 Front
Spedick, Charles A. 3 Worth
Tabor Mfg. Co. 111 Liberty
The Kuapp Mfg. Co. 22-24 Frankfort
Thompson, Frank, 178 Centre
Thompson & Bushnell, 120 Liberty
Thornton, John, jr. 45 Mercer
Tucker, Cummings H. jr. & Bro. 126 Liberty
United States Supply Co. Ltd. 51 John
Urquhart, John S. 46 Cortlandt
Valentine Bros. 345 Produce Ex
Van Vechten, A. & Co. 165 Greenwich
Voigt, Starr & Co. 89 Reade
Watson & Stillman, 204-210 E. 43d (see add opposite p. 326)
Williams, E. A. & Son, 107-111 Plymouth, Jersey City, N. J.
Wilson, O. C. & K. R. 89 West

MAGNESIA PIPE AND BOILER COVERINGS.

Chalmers-Spence Co. 59-61 Liberty
Gilmour, Robt. M. 82 John
Johns, H. W. Mfg. Co. 87 Maiden la
Keasbey, Robt. A. 58 Warren

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Cutler Mfg. Co. Rochester, N. Y., New York
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MALLEABLE IRON CASTINGS.

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McNab & Harlin Mfg. Co. 56 John
Mallory, Wheeler Co. The (light) 64 Reade
Miliken Bros. 55 Liberty
New Jersey Foundry and Machine Co. 105 Chambers
N. Y. Nickel Plating and Mfg. Co. 227 and 229 W. 29th
North & Judd Mfg. Co. 265 Broadway
Wilcox, Crittenden & Co. 33 South

MANTELS, BRASS, BRONZE, IRON AND METAL.

Conover, J. S. & Co. 28-30 W. 23d (see add p. 85)
Davis, Reed & Alexander, 18 E. 15th
Edgewood Co. 1 W. 34th
Hecla Architectural Bronze and Iron Works, Poulson & Eger, Pulitzer bldg. show rooms 48-51 (see add p. 28)
Jackson, Edwin A. & Bro. 50 Beekman
Jackson, W. H. & Co. 29 W. 17th (see add p. 84)
Jackson's, W. Sons, 246 Front
Kirtland, Andrews & Co. (Ltd.) 46-48 Union sq. e. 17th (see add p. 83)
Nichols, A. S. & Co. 111 E. 128th and 108 E. 129th
Walsh, John, 387 Third av

MANTELS, GRATES AND FENDERS.

Batterson, See & Eisele, 431 Eleventh av
Boote, A. 47th and Broadway
Bradley & Currier Co. (Ltd.) 308 Hudson
Brooklyn Slate Mantel Co. Broadway and Halsey, Brooklyn, New York Salesrooms, 1114 Park av (see add p. 81)
Brown, Geo. & Co. 46 E. 14th
Buffalo Door and Sash Co. Ninth av and 124th
Carrere & Haas, Lincoln bldg. 1-3 Union sq. cor. 14th
Conover, J. S. & Co. 28-30 W. 23d (see add p. 85)
Davis, Reid & Alexander, 18 E. 15th
Deitz, Rockett & Co. 323 E. 22d
Edgewood Co. 1 W. 34th
Endolithic Marble Co. 123 Fifth av
Grant, W. D. 1456 Broadway
Hall & Garrison, 32 Warren
Harting, Lorenzo R. 317 E. 22d
Hecla Architectural Bronze and Iron Works, Poulson & Eger, Pulitzer bldg. show rooms 48-51 (see add p. 28)
Howard & Morse, 45 Fulton (see add p. 5)
Howden & Fish, Chelsea Hotel bldg. 216-218 W. 23d (see add p. 77)
Jackson, Edwin A. & Bro. 50 Beekman
Jackson, W. H. & Co. 29 E. 17th (see add p. 84)
Jackson, W. Sons, 246 Front
Jenkins Co. 247 Canal
Keogh, C. B. Mfg. Co. 6-8 Howard
Kilian Bros. 159 W. 32d

KILIAN BROTHERS,

MANUFACTURERS OF

Wood Mantels and Architectural Wood Work,
Designs and Estimates Furnished.

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KIRTLAND, ANDREWS & CO.,
(LIMITED).

Wood Mantels, Architectural Wood Work,
Tiling, Brass Work, Slate Work, Open
Fire Places.

46 and 48 Union Square,
4th Ave. and 17th St., NEW YORK.

See Advertisement, page 83.

Klaber, S. & Co. 47 W. 42d
Mott, J. L. Iron Works, 88 Beckman
Nichols, A. S. & Co. 111 E. 128th and 108 E.
129th
Parry, Henry, 35 E. 19th
Penrhyn Slate Co. 101 E. 17th

THE PENRHYN SLATE COMPANY,
MANTEL

And General Slate Manufacturers.

101 East 17th Street, N. Y.

Quarries and Manufactory, Middle Granville, New York.

See Advertisement, page 80.

Pottier, Styms & Co. 375 Lexington av
Pries, W. H. 434 Canal
Provest, Fred. 5 E. 17th
Radley & Greenough, 502-504 W. 74th (see add
p. 92)
Rummier, Herman B. 369 W. 11th
Schastey, Geo. A. & Co. 53d and Broadway
Schunemann, C. H. 2-4 Howard
Schwartz, L. & Co. 21 E. 15th
Serven & Irwin, 1479 Broadway
Sheridan, J. W. & Co. 317 E. 93d
Smith, H. C. Co. The, 62 Tenth av (see add p.
142)
Smith, J. B. 174-180 E. 116th
Standard Mantel and Slate Works, 315 W.
125th
Traitel Bros. 499 Fifth av

TRAITEL BROS.,

No. 499 FIFTH AVENUE, NEW YORK,

Next Door to 42d Street.

TILES, MOSAICS.

Mantels, Grates, Andirons & Fenders. Artistic Wrought
Iron. Sole Agents French Flint Floor Tiles. Longwy
Wall Tiles.

See Advertisement, page 82.

Walsh, John, 387 Third av
Wilson, Jas. G. 74 W. 23d (see add pp. 82, 88)

**MANTELS, MARBLE AND
ONYX.**

Batterson, See & Eisele, 431 Eleventh av
Conover, J. S. & Co. 28-30 W. 23d (see add p.
85)
Davidson Sons' Marble Co. Eleventh av and
27th (see add p. 123)
Edgewood Co. 1 W. 34th
Ellin, Kitson & Co. ft. 25th and N. R.
Endolithic Marble Co. 123 Fifth av

Fisher, Robt. C. & Co. 97-103 E. Houston
Hecla Architectural Bronze and Iron Works,
Pulitzer bldg. showrooms 48-51 (see add p.
28)

Howden & Fish, Chelsea Hotel bldg. 216-218
West 23d (see add p. 77)

Jackson, W. H. & Co. 27-29 E. 17th (see add p.
84)

Kelley & Rogers, 157 E. 85th

Klaber, S. & Co. 47 W. 42d

Krulich, J. 456-466 Cherry

Ledig, Reinhold G. 43 College pl

Mycenian Marble Co. 533 W. 59th (see add opp.
p. 200)

Nichols, A. S. & Co. 111 E. 128th and 108 E.
129th

Sonius, P. C. & Son, 330 E. 23d

Theis & Janssen, 413-415 E. 125th (see add p.
127)

Traitel Bros. 499 Fifth av (see add p. 82)

**MANTELS, MARBLEIZED
SLATE.**

Boote, Alfred, cor. Broadway and 47th
Bradley & Currier Co. (Ltd.) 308 Hudson
Brooklyn Slate Mantel Co. Broadway and Hal-
sey, Brooklyn, New York Salesrooms, 1114
Park av (see add p. 81)

Conover, J. S. & Co. 28-30 W. 23d (see add p.
85)

Davidson Sons' Marble Co. Eleventh av and
27th (see add p. 123)

Edgewood Co. 1 W. 34th

Hecla Architectural Bronze and Iron Works,
Pulitzer bldg. showrooms 48-51 (see add p.
28)

Jackson, Wm. H. & Co. 27-29 E. 17th (see add
p. 84)

Jenkins Co. 247 Canal

Kirtland, Andrews & Co. (Ltd.) 46-48 Union sq
cor. 17th (see add p. 83)

Mycenian Marble Co. 533 W. 59th (see add opp.
page 200)

Penrhyn Slate Co. 101 E. 17th (see add p. 80)

Standard Mantel and Slate Works, 315 W.
125th

Traitel Bros. 499 Fifth av (see add p. 82)

Walsh, John, 387 Third av

Wilson, James G. 74 W. 23d (see add p. 82)

MANTELS, SLATE.

Boote, Alfred, cor. Broadway and 47th
Bradley & Currier Co. (Ltd.) 308 Hudson

Brooklyn Slate Mantel Co. Broadway and Hal-
sey, Brooklyn, New York salesrooms 1114
Park av (see add p. 81)

Buffalo Door and Sash Co. Ninth av and 124th
Conover, J. S. & Co. 28-30 W. 23d (see add p.
85)

Howden & Fish, Chelsea Hotel bldg. 216-218
W. 23d

Jackson, Wm. H. & Co. 27 E. 17th (see add p.
84)

Jenkins & Co. 247 Canal

Kirtland, Andrews & Co. (Ltd.) 46-48 Union sq. (see add p. 83)
 Nichols, A. S. & Co. 111 E. 128th and 108 E. 129th
 Penrhyn Slate Co. 101 E. 17th (see add p. 80)
 Pottier, Styms & Co. 375 Lexington av
 Serven & Irwin, 1479 Broadway
 Standard Mantel & Slate Works, 315 W. 125th

MANTELS, TERRA COTTA AND PRESSED BRICK.

Boston Terra Cotta Co. Times bldg. 41 Park row
 Conover, J. S. & Co. 28-30 W. 23d (see add p. 85)
 Engelhardt & Mayland, sole selling agents, Peerless Brick Co., Philadelphia, Pa., office Times bldg., N. Y., room 108
 New York Anderson Pressed Brick Co. Lincoln bldg. 1-3 Union sq. cor. 14th (see add p. 138)
 New York Architectural Terra Cotta Co. Potter bldg. 38 Park row
 Perth Amboy Terra Cotta Co. 160 Broadway
 Raritan Hollow & Porous Brick Co. Macintyre bldg. 874 Broadway
 Staten Island Terra Cotta Lumber Co. Equitable bldg. 120 Broadway (see add p. 130)
 Traitel Bros. 499 Fifth av (see add p. 82)

MANTELS, WOOD.

Blanck & Co. 16 Horatio
 Boote, Alfred, 47th and Broadway
 Bradley & Currier Co. (Ltd.) 308 Hudson
 Brown, G. & C. 46 E. 14th
 Buffalo Door and Sash Co. The, Ninth av. & 124th
 Campbell Sash Door Co. The, 427 E. 144th
 Conover, J. S. & Co. 28-30 W. 23d (see add p. 85)
 Davis, Reid & Alexander, 18 E. 15th
 Edgewood Co. 1 W. 34th
 Gray, Jenks & Co. 3 Union sq. (see add p. 93)
 Hall & Garrison, 32 Warren
 Hayden Furniture, 1 W. 34th
 Howden & Fish, Chelsea Hotel bldg. 216-218 W. 23d (see add p. 77)
 Jackson, W. H. & Co. 27-29 E. 17th (see add p. 84)
 Jenkins Co. 247 Canal
 Keogh, C. B. Mfg. Co. 6-8 Howard
 Kertscher & Co. 528-532 W. 24th
 Kilian Bros. 157-159 W. 32d
 Kirtland, Andrews & Co. (Ltd.) 46-48 Union sq. cor. 17th (see add p. 83)
 N. Y. Lumber & Wood Working Co. The, 175 Broadway
 Nichols, A. S. & Co. 15 W. 27th

Phillips, Geo. W. 560 W. 23d (see add p. 101)
 Radley & Greenough, 502 E. 74th
 Rummel, H. B. 369 W. 11th
 Schmitt, Bernard, 501 E. 70th
 Smith, J. B. 174 E. 116th
 Smith, B. & W. 220 W. 29th
 Topp, E. 261 W. 27th
 Traitel Bros. 499 Fifth av (see add p. 82)
 White, Potter & Paige, 18 E. 17th
 Wilson, Jas. G. 74 W. 23d (see add pp. 82, 88)

MANUFACTURERS' SUPPLIES.

Blewitt, James, 425 Seventh av
 Schwartz, E. H. 23 Av. A

E. H. SCHWARTZ,

Manufacturer and Jobber
 in all Kinds of

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Manufacturers and Painters' Supplies.
 Material und Farbwaaren für alle Gewerbe.

No. 23 Avenue A, cor. 2d St., N. Y. Factory, Brooklyn.

See Advertisement, page 106.

MARBLE MOSAICS, ARTISTIC.

Aeschlimann & Pellarin, 231 E. 28th
 Batterson, See & Eisele, 431 Eleventh av
 Conover, J. S. & Co. 28-30 W. 23d (see add p. 85)
 Davidson Sons' Marble Co. Eleventh av. and 27th (see add p. 123)
 Fischer, Schroeter & Co. 105 W. 42d
 Fisher, Robert C. & Co. 97-103 E. Houston
 Herter Bros. c. 20th st. and Fifth av, No. 154
 Italian Marble Mosaic Co. 412 E. 23d
 Lamb, J. & R. 59 Carmine
 Marble & Enamel Mosaic Co. (operative Co.) 318 E. 34th
 Peragallo, A. & Bros. 329 E. 46th

A. PERACALLO & BROS.

ITALIAN & AMERICAN,
 MARBLE MOSAIC WORKS,

329 East 46th Street,

NEW YORK.

Traitel Bros. 499 Fifth av (see add p. 82)

MARBLE DECORATIONS, EXTERIOR AND INTERIOR.

Aeschlimann & Pellarin, 231 E. 28th
 Baillie, H. C. & G. S. 304 E. 23d

Marble, Granite and Stone Cutters' Tools.—Marble Industry Employers' Association
of New York.—Marble, Mycenian.

Baillie, S. & Son, 208 E. 23d
Batterson, See & Eisele, 431 Eleventh av
Bernini, Jos. & Co. 204 W. 15th
Brahm, J. 209 W. 50th
Buess & Co. 105 Rivington
Davidson Sons' Marble Co. 27th and Eleventh
av (see add p. 123)
Dimond, J. 218 W. 42d
Donohue, T. 541 W. 22d
Eagan & Hallecy, 318 E. 23d
Ellin, Kitson & Co. ft. 25th and N. R.
Eschman & Co. 211 E. 22d
Fauchere, L. 211 E. 22d
Fischer, Schroeter & Co. 105 W. 42d
Fisher, Robt. C. & Co. 97-103 E. Houston
Fritsche, Emil, 517 W. 20th
Heany, John, 331 E. 92d
Holland, Wm. 207 E. 119th
Kearney & Co. 1458 Broadway
Kelly & Rogers, 157 E. 85th
Klaber, A. 238 E. 57th
Klaber, S. & Co. 47 W. 42d
Klee Bros. 202 E. 42d
Lazzari & Barton, Woodlawn
Livingston, James, 205 E. 64th
Maxwell & Dempsey, 277 Cherry
Mycenian Marble Co. 523-533 W. 59th (see add
opposite p. 200)
Pratt & Molleson, 50 Broadway
Rist & Maxwell, 466 Cherry
Saffer & Son, 211 E. 22d
Stetz & Bianchi, Woodlawn
Theis & Jansen, 413 and 415 E. 25th (see add
p. 127)
Traitel Bros. 499 Fifth av (see add p. 82)
Veith, Martin, 313 E. 71st
Volkening & Co. 232 E. 44th
Woehr, Adam, 984 Ninth av

MARBLE DUST.

Batterson, See & Eisele, 431 Eleventh av
Davidson Sons' Marble Co. Eleventh av and
27th (see add p. 123)
Tomkins, Calvin, 150 Broadway (see add p. 140)
Vermont Marble Co. 35 Hancock pl

MARBLE, GRANITE AND STONE CUTTERS' TOOLS.

American Pneumatic Tool Co. The, Ninth av
and 14th
Mead, J. V. 370 Ave. A (see add p. 107)

MARBLE INDUSTRY EM- PLOYERS' ASSOCIATION OF NEW YORK.

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1st Vice-President: H. C. Baillie
2d Vice-President: J. Maxwell
Secretary: W. K. Fertig
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Treasurer: D. Baillie

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Trustees: Alexander Davidson, A. Klaber, J.
Dimond.

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Aeschlinann & Pellarin	Kelly, Hugh G.
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Batterson, See & Eisele	Leonhardt, J. L.
Berkenstoek, J.	Livingston, Jas.
Blue Ridge Marble Co.	McGratty & Son
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Bussy, Wm.	Nichols & Shipway
Campbell, Wm.	Pells & Co.
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Co.	Rogers, Thos.
Dimond, John	Roussel C. J. & Son
Eagan & Hallecy	Rist & Maxwell
Ellin, Kitson & Co.	Saffer & Son
Fauchere, L.	Schaad, Phillip
Feeney & Devanney	Scott & Smith
Fisher, Robt. C. & Co.	Sheppard, S.
Fitch, James	Sibbel, Joseph
Foley, P.	Smith, W. B. Sons
Fox & McCarthey	Sonius, P. C.
Fritsch, E.	Stevenson & Blau
Gahagan, W. A.	Taber & Co.
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Heyland, Aug.	Veith, M.
Irenonger, Thos.	Woehr, Adam
Jordan & Son	

MARBLE, MYCENIAN.

Klee Brothers, 202-204 E. 42d
Mycenian Marble Co. 523-533 W. 59th (see add
opposite p. 200)

MARBLE, ONYX.

Baillie, Samuel & Son, 206 E. 23d and 211 E. 22d
Batterson, See & Eisele, 425-431 Eleventh av

BATTERSON, SEE & EISELE,

Importers and Workers of

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Davidson Sons' Marble Co. Eleventh av. and
27th (see add p. 123)
Ellin, Kitson & Co. ft. 25th st. and N. R.
Fisher, Robert C. & Co. 97-103 E. Houston
Klaber, A. 238 E. 57th
Klaber, S. & Co. 47 W. 42d

Mexican Onyx Quarry Co. 46 Wall
Mexican Onyx & Trading Co. 1 Broadway

MEXICAN ONYX & TRADING CO.

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Plock, Charles & Co. 541 W. 22d
Theis & Janssen, 413-415 E. 25th (see add p. 127)

MARBLE PRODUCERS.

Clarkson Quarries, 55 Liberty st. T. S. Clarkson & Co. Agts.

CLARKSON QUARRIES,
POTSDAM RED SANDSTONE,
RICHVILLE WHITE MARBLE.

T. S. CLARKSON & CO.,
AGENTS,

55 Liberty Street, N. Y.

Davidson Sons' Marble Co. Eleventh av. and 27th (see add p. 123)
Passaic Quarry Co. Potter bldg. 38 Park row (see add p. 201)
Totoket Quarry Co. World bldg
Tuckahoe Marble Co. 413 E. 29th
Vermont Marble Co. 2 Wall, 35 Hancock pl

MARBLE WORK, PLUMBERS' SUPPLIES.

Blessing, Geo. A. 290 Pearl (see add p. 110)
Fisher, Robert C. & Co. 97-103 E. Houston
Klaber, A. 238 E. 57th
McShane, Henry Mfg. Co. 625-627 Sixth av (see add p. 108)
Rogers, Thos. 318 E. 23d
Santitas Mfg. Co. 54 Gold
Theis & Janssen, 413-415 E. 25th (see add p. 127)
Volkening & Co. 232 E. 44th

MARBLE WORKERS AND DEALERS.

Adler, Samuel, 213 E. 49th and 148 E. 57th
Aeschlimann & Pellarin, 231 E. 28th
American Marble Co. 54 Pine
Baillie, Samuel & Son, 208 E. 23d and 211 E. 22d

Baillie, H. C. & G. S. 312 E. 22d
Bardillo, Marble Mfg. Co. 115 Broadway
Batterson See & Eisele, 431 Eleventh av
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Booth Bros. and Hurricane Isle Granite Co., OF NEW YORK.

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60 Bank Street, New York.

Telephone, 18th St., 372.

See Advertisement, page 121.

Brahm, John, 209 W. 50th
Buess & Co. 105 Rivington
Burke & Co. 47 Broadway
Cateron, Eliza, Woodlawn
Cateron, Robert, Woodlawn
Casey, Thomas W. Croton Granite Works, Croton, Conn. New York office, S. Clinton
Sherwood, 10 W. 23d
Celi, Peter & Co. Woodlawn
Clark, William C. Woodlawn
Cuba Marble Co. 45 Broadway
Davidson Sons' Marble Co. Eleventh av. and 27th st (see add p. 123)

DAVIDSON SONS' MARBLE COMPANY,

Importers and Workers of

Foreign and Domestic Marbles.

ELEVENTH AVE. & 27th ST.,
NEW YORK.

See Advertisement, page 123.

Dimond, John, 218 W. 42d
Donahue, Terence, 541 W. 22d
Dover Marble Co. 307 E. 115th
Eschman & Co. 211 E. 22d
Evans, W. H. & Son, 822 Broadway
Faucheri, Louis, 211 E. 22d
Feeney & Devanny, 318 E. 23d
Fisher, Robert C. & Co. 97 E. Houston
Fitch, James, 225 E. 34th
Foley, Patrick, 304 E. 22d
French, Hamline Q. 50 Broadway
Fritsch, Emil, 517 W. 20th
Garrison, A. 315 Madison av
Hall, George E. 57 William
Hart, Patrick F. 353 W. 13th
Heaney, John, 331 E. 92d
Hirschberg & Rewald, 182 Division
Hoffman & Prochazka, 15 E. 12th
Holland, William, 167 E. 120th

WILLIAM HOLLAND,

Marble & Slate Works,

167 EAST 120th STREET, NEW YORK.

Monuments, Head Stones, Tiling, Table Tops, Plumbers' Work, Slate Steps, Platforms, Urinals, Jobbing of all kinds Promptly Attended to. Quarter Circles, Pier and Corner Slabs Constantly on Hand.

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Hyland, Augustine, 406 E. 79th
Italian Marble Mosaic Co. 412 E. 23d
Kearney, Peter, 1458 Broadway

Kelly, H. G. 157 E. 85th
 Kennedy, Jeremiah, 247 W. 50th
 Klaber, Adolph, 238 E. 57th
 Klaber, S. & Co. 47 W. 42d, 58 W. 43d
 Knowles Brothers, 57 Lafayette pl
 Krulish, J. 466 Cherry

J. KRULISH, Steam Marble Works,

MANUFACTURER OF
 PLUMBER SLABS, MANTELS, AND ALL KINDS
 MARBLE FOR BUILDING USE.

456-466 Cherry St., NEW YORK.
 Bet. Jackson and Collier Sts.

Kubin, Joseph, jr. Elton av. n. E. 154th
 Lazzari & Barton, Woodlawn
 Leonhardt, Jacob M. 332 E. 23d
 Livingston, James, 211-213 E. 64th
 McKennan, John, 123 W. 62d
 Maeray & Bro. 558 W. 43d

MACRAY & BRO., GRANITE WORKS,

No. 558 & 560 West 43d Street,
 Bet 10th and 11th Avenues, **NEW YORK.**
 All Kinds of Building, Monumental and
 Cemetery Work.

See Advertisement, page 126.

Magowan, James H. 782 Seventh av
 Maxwell, Crawford, 393 South, 403 Front
 Maxwell & Dempsey, 277 Cherry

R. C. Maxwell. J. M. Dempsey.

MAXWELL & DEMPSEY, Steam Marble Works,

277, 279 & 281 CHERRY ST.,
 Bet. Rutgers and Jefferson Sts., **NEW YORK.**
 And 530, 522, 524 WATER ST., N. Y.

Mexican Onyx and Quarry Co. 46 Wall
 Mexican Onyx and Trading Co. Washington
 bldg, 1 Broadway
 Mycenian Marble Co. 523-533 W. 59th (see add
 opposite p. 200)
 Nantahala Marble Co. 95 Nassau
 New York & Berkshire Marble Co. 6 Wall
 Norcross Bros. 81 E. 125th
 Parson, H. E. 35 Liberty, 54 Pine
 Plock, Chas. & Co. 541-543 W. 22d

CHARLES PLOCK & CO.,

Importers and Workers of

FINE COLORED MARBLES, ONYX & STATUARY
541-543 West 22d Street, N. Y.

HOUSE IN ITALY,
 PLOCK, SEEGER & Co.,
 Carrara.

Reilly Brothers, ft. W. 58th
 Rickard & Hewitt, 104 John
 Rist & Maxwell, 486 Cherry, 282 Monroe
 Rogers, Thomas, 318 E. 23d
 Saffer & Son, r. 211 E. 22d
 Schoone, Charles, 318 E. 34th
 Setz & Bianchi, Woodlawn
 Snow Flake Marble Co. 157 Broadway
 Sonius, P. C. & Co. 63 W. 44th

Sonius, P. C. & Son, 330 E. 23d

P. C. SONIUS & SON,

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Marble Works,

330 EAST 23d STREET, N. Y.

Repairing all Kinds of Fine Marble Work. Estimates
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 Strong & Gunnison, 5 E. 17th, 315 Madison av
 Taber & Co. 714 Water
 Taconic Marble Co. 280 Broadway
 The Blue Ridge Marble Co. 315 Madison av
 Theis, & Janssen, 413 E. 25th

THEIS & JANSSEN,

ECCLIESIASTICAL & ARCHITECTURAL

Marble Works,

Carvers in Marble and Stone,

413 & 415 East 25th St., New York.

See Advertisement, page 127.

The Hudson and Chester Granite Co. Temple
 Court, 5 Beekman, room 911
 The White Granite Co. 547 W. 17th (see add p
 125)
 Town-end, William C. 520 W. 20th
 Tuckahoe Marble Co. 413 E. 29th
 Veith, Martin, 313 E. 71st
 Vermont Marble Co. 35 Hancock pl
 Volkening & Co. 232 E. 44th
 Wanek, Thomas, 596 Grand
 Weber, George, 66 Suffolk
 Wetzler, Adolph, 127 Sheriff
 Woehr, Adam, 984 Ninth av

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 Aeschlimann & Pellarin, 231 E. 28th
 Bailie, Samuel & Son, 211 E. 22d
 Bailie, H. C. & G. S. 304 E. 23d
 Bailey, G. L. 38 Park row
 Batterson, See & Eisele, 431 Eleventh av
 Booth Bros. & Hurricane Isle Granite Co. 60
 Bank (see add p. 124)
 Brown & McAllister, 433 W. 14th (see add p.
 126)
 Cabor, John, 412 Front
 Canfield, Chas. W. 1321 Broadway
 Casey, Thos. W. Croton Granite Works, Cro-
 ton, Conn. N. Y. office, S Clinton Sherwood,
 10 W. 23d
 Cassidy, B. W. 635 W. 50th
 Catterson, Eliza, Woodlawn
 Catterson, Robert, Woodlawn
 Catherwood, Robt. B. 40 Broadway
 Celi, Peter & Co. Woodlawn

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Comm. River Gran. Co. 129 Broad
Corvera, Joseph, 462 Third av
Dimond, John, 218 W. 42d
Dolan, Jas. F. First av. and 101st
Donohue, Terence, 543 W. 22d
Doyle, Geo. 43 Broadway
Draddy, M. J. 227 Stewart bldg
Dregan, John G. 6 Grand Circle
Dulat, Henry, 37 W. 33d
Ellin, Kitson & Co. 25th and N. R.
Falconi & Co. Tremont and Fordham
Felix, P. W. 925 Sixth av
Fisher, Robert C. & Co. 97-103 E. Houston

ROBERT C. FISHER & CO.,

Successors to FISHER & BIRD,

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97, 99, 101 & 103 East Houston Street.

(Established 1830.)

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French, H. Q. 50 Broadway
Garity Bros. 18 W. 14th
Gouldsbury, R. & Co. 318 E. 23d
Guidet, Chas. 237 Broadway
Hanna, John. 6 E. 42d
Hoffman & Prochazka, 15 E. 12th
Houser, Horace, 84 Eleventh av
Hummel, Jas. H. 153 Fulton
Klaber, A. 238 E. 57th
Knowles Bros. 229 E. 22d
Kubin, Jos. jr. Elton av. near 154th
Lake Champlain Granite Co. 15 Maiden la
Lamb, J. & R. 59 Carmine
Lazzari & Barton, Woodlawn
Logan, Robt. 99 Nassau
Macray & Bro. 558 W. 43d
Mower, E. & Co. 82 Nassau
McGrath & Kidney, East End av. and 31st
McKenna, John, 133 W. 62d
Nelson, W. H. 126 Liberty
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N. E. Monument Co. 1321 Broadway
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E. 129th
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Petersburg Granite Quarry Co. 38 Wall
Pierson & Renwick, 19 Park pl
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Randall, John L. 53 Broadway
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The White Granite Co. 547 W. 14th (see add p.
125)
Totoket Granite Co. World bldg

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Voorhis, Jacob, 403 E. 42d
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Wanck, Thos. 596 Grand
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av (see add p. 123)
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Rist & Maxwell, 452-466 Cherry
Theis & Janssen, 413-415 E. 25th (see add p.
127)

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 Cassidy, Hugh, 53 University pl
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 Clement, J. O. 2269 Seventh av
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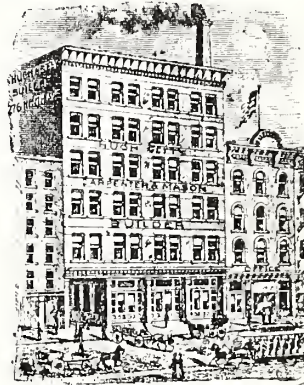
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American Machine Mortar Co. 126 Liberty
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(see add p. 9)
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Bonker Contracting Co. 110 Wall (see add p.
141)
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Brigham, H. R. 18 Coenties sl
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120)
Canda & Kane, 14 Vesey

- Capdee & Smith, 26th st. and E. River, 53d st.
 and E. River, 135th st. and Mott Haven (see
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 p. 114)
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 Eastern Hydraulic Pressed Brick Co. F. L.
 Blake, Agt. World bldg. room 87
 Eastern Plaster Board Co. 52 Broad
 Engelhardt & Mayland, Times bldg. 41 Park
 row, room 108
 Fisher, E. W. 18 Broadway (see add p. 117)
 Fleming Cement & Brick Co. 23 Liberty
 Foster, Daniel. 624 W. 30th
 Gleason, John, 700 Water
 Goss & Edsell Co. 360 West
 Griffing Enamel Brick Co. Times bldg. 41
 Park row
 Gustavino Fire Proof Construction, ft. W. 57th
 Hammond W. K. 624 W. 30th
 Harris & Co. 54 Pine
 Hartt, Patrick, 604 W. 30th
 Hendrickson, I. Co. 237 Broadway (see add p.
 139)
 Hewitt, C. B. & Bros. 43 Beckman
 Hudson River Stone Supply Co. 45 Broadway
 International Rock Plaster Co. 44 Broadway
 Isaacs, Gustavus, 22 Bethune
 Kanter, Emil, 126 Liberty
 King, J. B. & Co. 24 State (see add p. 115)
 Kreisler & Sons, B. 182 Mangin
 Le Hullier & Marsh, 19 Broadway
 Lorillard Brick Works Co. 92-94 Liberty
 McNamara, J. C. 604 W. 30th
 Main, R. T. 626 W. 30th
 Malone, Frank, Times bldg. 41 Park row
 Manchester & Philbrick, ft. E. 91st (see add p.
 140)
 Marcial & Co. 36 Broadway
 Marquardt, H. & Co. 21 So. William
 Martin & Co. 132 Horatio, 137th & Madison av
 Mathiason & Hansen, Perth Amboy, N. J. (see
 add p. 133)
 Maul, A. 200 E. 37th
 Maurer, Henry & Son, 420 E. 23d (see add op-
 posite back inside cover)
 Meeker & Carter, 14 E. 23d
 Menlo Park Ceramic Works, Jere T. Smith,
 prop. 23d and Madison av (see add p. 131)
 Metal Clad Building Co. 1 Broadway
 Miller, & Robinson, 161st and Jerome av
 Morse, F. E. 7 Coenties sl.
 Murtaugh & McCarthy, 369 Rivington
 New, T. Mfg. Co. MacIntyre bldg. 874 B'way
 N. Y. Anderson Pressed Brick Co. Lincoln bldg.
 1-3 Union sq. cor. 14th (see add p. 138)
 New York Architectural Terra Cotta Co. Potter
 bldg. 38 Park row
 N. Y. and Rosendale Cement, 280 Broadway,
 W. C. Morton, Sec. (see add p. 118)
 New York Cement Co. 18 Cortlandt
 New York Metal Lath Co. 171 Broadway
 Novelty Wood Works, 159 E. 165th
 Parson, Henry E. 54 Pine
 Payr, J. 626 W. 30th
 Peck, W. J. ft. E. 48th
 Person, Orrin D. Mohawk bldg. 160 Fifth av
 (see add p. 139)
 Perth Amboy Terra Cotta Co. 160 Broadway
 Pierce, Charles D. 127 Pearl (see add p. 212)
 Pope, C. E. & Co. 45 Broadway
 Purdy & Pitts, 628 W. 30th
 Rankin, John, 173 Broadway
 Raritan Hollow & Porous Brick Co. MacIntyre
 bldg. 874 Broadway
 Read, Geo. E. 95 Nassau
 Reveley & Emmons, 604 W. 30th
 Ricinate Fire Proofing & Ins. Co. 90 So. Fifth
 av
 Ritch, Thos. & Son, 408 Front
 Robbins, George B. & Co. 136th st. and Third av
 (see add p. 122)
 Rock Plaster Co. of N. Y. 44 Broadway (see
 add p. 113)
 Rogers, Jas. ft. W. 132d
 Saylor's Portland Cement, Aldrich Court, 45
 Broadway
 Sayre & Fisher Co. Bennett bldg. cor. Fulton
 and Nassau (see add p. 139)
 Schermerhorn, J. Maus, Times bldg. 41 Park
 row
 Schillinger Fire Proof Cement & Asphalt Co.
 401-413 E. 91st
 Schmohl, W. H. 814 E. 14th
 Schultz, G. S. 311 Eleventh av
 Sherman, Henry, 12 Old sl
 Smith, Elliott, 24 State
 Smith, Jere T. 23d and Madison av (see add p.
 131)
 Snyder, Hiram & Co. 229 Broadway (see add p.
 119)
 Spratt, Jas. R. 293 Broadway
 Standard Portland Cement Co. Central bldg.
 143 Liberty
 Staten Island Terra Cotta Lumber Co. Equi-
 table bldg. 120 Broadway (see add p. 130)
 Stevens, Armstrong & Conkling, 181 Broadway
 Stone Brick Co. 174 Chambers
 Stone & Brick Water Proofing Co. 115 Broad-
 way (see add p. 127)
 The American Mach. Mortar Co. 126 Liberty,
 E. W. Sutphen, mgr.
 The Arch. Terra Cotta Works of Perth Amboy,
 Times bldg. 41 Park row, room 108
 The Gustavino Fire Proof Construction Co. ft.
 W. 57th
 The Manhattan Fire Proofing Co. MacIntyre
 bldg. 874 Broadway (see add p. 132)
 The Peerless Brick Co. Phila. Pa. Times bldg.
 41 Park row, Room 108
 The Van Fire Proofing Co. Albert Von den
 Driesch, (see add opposite back inside cover)
 Thiele, E. 78 William (see add p. 117)
 Thomas, E. H. 173 Broadway
 Tile Fire Proof Construction Co. Central bldg.
 143 Liberty
 Tomkins, Calvin, 150 Broadway (see add p.
 150)
 Union Terra Cotta Lumber Co. 287 Broadway
 United States Building Material Co. 54 Pine
 Van Valen, Jos. R. 284 South
 Washburn & Barnes, 626 W. 30th
 Weeks Chas. R. & Bro. 74 Murray
 Wise, Nathaniel, ft. E. 79th

NATHANIEL WISE, MASONS' BUILDING MATERIALS

Brick, Lime, Cement, Lath, Plaster, Etc.,

Foot of 79th St., E. R.

And Building Material Exchange, No. 65 Liberty St., N. Y.
TELEPHONE CALL.

Wood, J. 628 W. 30th

Wyandance Brick & Terra Cotta Co. 19 Park
pl

Young, G. Wright Co. 50 Broadway (see add
p. 86)

MASONS' AND BUILDERS' SAND SCREENS.

Estey, W. S. 65 Fulton (see add p. 24)

MATERIALS, FIRE PROOF BUILDING.

Chin, Aug. T. 38 Park row

Colman, Chas. H. & Co. 145 Broadway (see add
p. 136)

De Rache, Leonard, 150 W. 70th (see add p.
133)

Eastern Plaster Board Co. 52 Broad

Meeker & Carter, 14 E. 23d

Moseley Iron Bridge & Roof Co. 5-7 Dey (see
add p. 49)

New York Arch. Terra Cotta Co. 38 Park row

Perth Amboy Terra Cotta Co. 160 Broadway

Rader, G. W. & Co. 611 W. 51st

Raritan Hollow & Porous Brick Co. 874 Broad-
way

Robbins, Geo. B. & Co. 136th st. and Third av
(see add p. 122)

Schillinger Fire Proof Cement & Asph. Co.
401-413 E. 91st

Tile Fire Proof Construction Co. Central bldg.
143 Broadway

Union Terra Cotta Lumber Co. 252 Broadway

U. S. Fire Clay Co. 145 Broadway

Van Fire Proofing Co. 92 Liberty

Wright Fire Proofing Co. 604 W. 51st

Wyandance Brick & Terra Cotta Co. 19 Park
pl

MATERIALS, IRON AND STEEL ROOFING.

Hedden, Eugene B. 35 Broadway (see add p 42)

Lyon, W. E. 202 E. 46th (see add p 46)

Morehead, McClaine Co. 81 John

Moseley Iron Bridge & Roof Co. 5-7 Dey (see
add p. 49)

N. Y. Iron Roofing & Corrugating Co. The, 29
Broadway (see add p. 51)

N. Y. Sheet Iron Works, 197 Wooster

Prince & Kinkel Iron Works, 729-731 First av
(see add p. 51)

Wallis Iron Works, 95 Liberty st. 7-15 Morris
av. Jersey City (see add p. 38)
Wines, W. D. 44 Centre

MATERIALS, PAVING.

Ameriean Bituminous Rock Co. 45 Broadway
Asphaltic Slag Paving and Roofing Co. 29
Broadway

Barber Asphalt Paving Co. 1 Broadway

Bolze, Henry, Times bldg. 41 Park row

Chichizzola, Paul, 77 S. Fifth av

Colman, Chas. H. & Co. 145 Fulton (see add
pp. 136, 137)

Comans & Evans, 81 Fulton

Continental Conduit Co. 155 Broadway

Davidson's Son's Marble Co. Eleventh av and
27th (see add p. 123)

Empire Paving and Construction Co. 24
State

Granite Sidewalk Paving Co. 171 Broadway
(see add p. 135)

Hastings Pavement Co. 142 Pearl

Hilgers, Wm. 163 W. 104th

International Pavement Co. 56 Wall

Lawrence Fred. Central bldg. 143 Liberty

Macknight Flintie Stone Paving Co. 150
Broadway (see add p. 7)

Metallie Paving Co. 115 Broadway

Meyer, Louis, 1066 Madison av

Moens Asphaltic Cement Co. 103 Maiden la

Mosher Bros, 151 W. 128th

Neuchatel Asphaltic Co. (Ltd.) Robert
Butcher, manager, 265 Broadway (see add
p. 135)

New, T. Mfg. Co. MacIntyre bldg. 874 Broad-
way

New York & Bermudez Co. 55 Beaver

North American Pyrogranite Co. 52 W. 15th

Saecke, C. W. 58 Pine

Schneider, N. 652 E. 12th

Slag Rock Mfg. Co. 18 Cortlandt

Standard Asphalt Co. 54 Wall

Struk, J. H. & Co. 324 E. 102d

Taylor, Matt. Paving Co. 15 Wall (see add p.
134)

The Barber Asphalt Co. 1 Broadway

The Schillinger Fire Proof Cement and
Asphalte Co. 401-413 E. 91st

The Sicilian Asphalt Paving Co. Times
bldg. 41 Park row

The United States Artificial Stone Co. Repre-
sented by Charles H. Colman & Co. 145
Broadway (see add pp. 136, 137)

Tomkins, Calvin, 150 Broadway (see add p.
140)

Trinidad Asphalt Paving Co. 29 Broadway

Union Pavement Co. Aldrich Court, 45 Broad-
way

Warren Chemical & Mfg. Co. 81 Fulton

Warren-Scharf Asphalt Paving Co. 81 Fulton

Wehn Pavement Co. Central bldg. 143 Lib-
erty

Wilson & Baillie Mfg. Co. 45 Broadway

MATS AND MATTING, GUTTA PERCHA.

Gutta Percha & Rubber Mfg. Co. 35 Warren
New York Belting & Packing Co. 15 Park
row (see add front inside cover)

MATS, EXPANDED METAL.

Central Expanded Metal Co. 97 Reade (see
add p. 114)
New York Steel Mat Co. 234 Broadway

MATS, MATTING, AND STAIR TREADS, RUBBER.

Boston Belting Co. 100 Chambers
Cabot, John, 306 11th av
Danagh & Small, 177 Water
Fasteurath, H. F. 18 Marion
Greene, John W. 82 Wall
Gutta Percha and Rubber Mfg. Co. 35 War-
ren
Hartman Mfg. Co. 102 Chambers
Imperial Rubber Co. 134 Liberty, George E.
Austin, manager
McCabe, B. 83 White
Mineralized Rubber Co. 18 Cliff
N. Y. Belting and Packing Co. 15 Park row
(see add front inside cover)
N. Y. Steel Mat Co. 234 Broadway
Sloane's, Jas. Son's, 2068 Bronx
Toffler, A. 207 E. 22d
Weiffenbach, C. & H. 196 E. Houston
Whittier Elevator Co. 306 Eleventh av (see
add p. 16)
Wild, Jos. & Co. 82 Worth & 11 Thomas

MATS, RUBBER.

Columbia Rubber Works Co. 65 Reade and
83 Chambers
Gutta Percha & Rubber Mfg. Co. 35 Warren
Imperial Rubber Co. 134 Liberty, George E.
Austin, manager
Mineralized Rubber Co. 18 Cliff
New York Belting & Packing Co. (Ltd.) 15
Park row (see add front inside cover)
Revere Rubber Co. 64 Reade

MATS, STRIPPED STEEL.

Central Expanded Metal Co. 97 Reade (see
add p. 114)
Estey, W. S. 65 Fulton (see add p. 24)

New York Steel Mat Co. 234 Broadway
Pitt, William R. Composite Iron Works, 83
Reade
Toller, A. 207 E. 22d

MECHANICS' AND TRAD- ERS' EXCHANGE.

14 Vesey Street, New York.

President.....GEORGE MOORE SMITH.
V. President.....Isaac A. Hopper.
Treasurer.....Edmond A. Vaughan.
Secretary.....Stephen M. Wright.
Trustees: John J. Tucker, John J. Rob-
erts, Thomas Dimond, Oscar T. Mackey,
Benjamin A. Williams, James B. Mulry, John
C. Doremus.

Finance Committee: Isaac A. Hopper, John
J. Tucker, Thomas Dimond.

Membership Committee: John J. Roberts,
Oscar T. Mackey, Stephen M. Wright.

Room Committee: John C. Doremus, Benj.
A. Williams, Edmond A. Vaughan.

Arbitration Committee: Geo. Moore Smith,
John J. Tucker, James B. Mulry.

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A. Conover, Edwin Dobbs.

Inspectors of Election: Ronald Taylor, Fred.
M. Hausling, J. Henry Deeves.

Legislative Committee: Frank E. Conover,
Andrew J. Campbell, William Brennan,
Geo. Moore Smith, Marc Eidlitz, Thomas J.
Dunn, James B. Mulry, Henry W. Redfield,
Stephen M. Wright.

MECHANICAL AND CON- SULTING ENGI- NEERS.

Aller, A. 109 Liberty
Amalgamated Society of Engineers, 333 E.
18th
American Society of Mechanical Engineers, 12
W. 31st
Ashley Engineering Co. 136 Liberty
Bach, Samuel W. 155 Broadway
Backus, Peter & Son, 133-135 W. 25th (see
add p. 64)
Baldwin, Frank R. 126 Liberty
Baldwin, W. J. 277 Pearl
Bang, Henry A. 1214 Broadway
Barnard Engineering Co. 15 Cortlandt

Barry & McTighe, 54 William
 Beach, John W. 45 Broadway
 Becker, John. 5 Beekman
 Birdsall E. T. 115 Broadway
 Bolton, G. & J. R. Imp. Hot Water Heater,
 Geo. H. Raymond, manager, 114 Liberty
 (see add p. 69)
 Braedwood, Wm. 213 Centre
 Bramwell, Geo. W. 120 Broadway
 Brandon, Jas. 390 Eleventh av
 Brevort, H. L. 206 Broadway
 Brown, H. P. 45 Wall
 Browne, Thos. E. jr. 38 Park row
 Bruns, C. L. 145 Broadway
 Buckley, H. W. Times bldg. 41 Park row
 Buins, Lorenzo, 164 Maiden la
 Burkee, Geo. H. 136 Liberty
 Carter, W. H. 479 E. 136th
 Chase, George, 978 Third av
 Chappell, Geo. F. 143 Elm
 Clarke, Charles L. 55 Liberty
 Colman, Frank B. 13 Park row
 Colwell, Augustus W. 74 Cortlandt
 Conover & Co. 95 Liberty
 Consolidated Gas Improvement Co. 136 Lib-
 erty
 Converse, M. D. 90 Nassau
 Cooper, Theo. 35 Broadway
 Copeland, Chas. W. 19 Barelay
 Craft, Jas. B. 15 Cortlandt
 Craig, William, 107 Liberty
 Craven, Thomas C. 29 Broadway
 Crenzbaur, Robert, 58 Broad
 Crouthers, James A. 21 Cortlandt
 Cunningham, Edward, 834 Broadway
 Darlington, John H. 31 Pine
 Dashiell & Graydon, 41 Dey
 Davis, Chas. H. 120 Broadway
 Dean & Westbrook, 32 Liberty
 DeBeavins, Jules, 2 Howard
 Deforest, Henry S. 143 Lib erty
 Dennison, S. P. 50 Broadway
 Derycke, Jos. 145 Broadway
 Dickinson, P. P. 7 Nassau
 Dobler, Chas. 335 W. 36th
 Donnes, Wm. 74 Cortlandt
 Eccles, J. L. 2 W. 3d
 Edwards, Joseph & Co. 412 Water
 Ellison & Co. 2077 Seventh av
 Emrieh, E. jr. & J. Clemmins, 182 E. 119th
 Engesser, Joseph, 3470 Third av
 Everett, Chas. J. 174 Chambers
 Everitt, Percival, 293 Broadway
 Faberdufaur, A. 132 Nassau
 Field Engineering Co. 143 Liberty
 Fish, John, 164 Maiden la
 Fiske, H. G. 13 Park row
 Flannery, Jos. 11 Pine
 Follett, Jos. L. 27 Fulton
 Forrest Marine Power Works, 115 Liberty
 Forrest Silver Bronze Packing Co. 115 Lib-
 erty
 Foster, J. M. & Co. 83 Fulton
 Fowler, Geo. L. 53 Broadway
 Frenzel, Arthur B. 31 Broadway
 Gadsden & Co. 19 Whitehall
 Gardner, W. 1 Broadway

Genoy, Mich. 10 Park pl

M. GENOY,
ENGINEER and MACHINIST,

NO. 10 PARK PLACE,
NEW YORK.

See Advertisement, page 52.

Gielon, H. J. 239 Broadway
 Gray, Albert, 150 William
 Gray, W. H. 74 Cortlandt
 Gray, Samuel M. 261 Broadway
 Grimshaw, Robert, 21 Park row
 Handrew & Robins, 126 Washington
 Harris, Joel L. 145 Broadway
 Heath, F. C. 36 Cortlandt
 Heinecke, Chas. 45 William
 Henning, Gus. C. 5 Beekman
 Herrick, Jas. A. 19 Whitehall
 Hesse, G. Emile, 35 Broadway
 Hoffman, Wm. H. 108 Liberty
 Hogan Engineering Co. 280 Broadway
 Hogan, John, 280 Broadway
 Hohenstein, Arch. G. 52 John
 Howard, Fanning & Co. 616 W. 25th
 Howell, Byron C. 2 Stone
 Hubert, Henry G. R. R. av n 138th
 Hunt Engineering Co. 126 Liberty
 Hurry, E. H. 15 Cortlandt
 Hussey, Levi, 15 Cortlandt
 Huston, Robert M. 45 Broadway
 Inman, Willard F. 32 Liberty
 Jacobi, Albert W. 74 Cortlandt
 Jones, Frank F. 2 Wall
 Kent, Wm. Times bldg
 Kraft, William, 31 Broadway
 Krauss, Herman, T. C. 58 Broad
 Krom, Stephen R. 151 Cedar
 Lancaster, Jas. H. 202 Broadway
 Lawton, M. 34 Park row
 Lewinson & Just, 90 Nassau
 Long & McAllister Co. 136 Liberty
 Longden, John N. 1300 Broadway
 McCormack, John, 45 Broadway
 McLean Engineering Co. 136 Liberty
 Macquesten, William D. 15 Cortlandt
 Magovern, Edw. E. 22 Cortlandt
 Mahoney, Jas. & Son, 245 Broadway
 Mailloux, C. O. 32 Liberty
 Mallory, Geo. B. 50 Broadway
 Martinez, M. J. 115 Broadway
 Mayer, R. J. 2225 Third av
 Mitchell & Boyeson, 149 Eleventh av
 Morgan Engine Co. 136 Liberty
 Morse, Cyrus B. 17 Franklm
 Mosher, Chas. D. 19 Whitehall
 Napier, Arthur H. 3 Union sq
 Nau, John B. 35 Broadway
 Naylor, Ernest W. 149 Broadway
 Nelson, Wm. G. 61 Fulton
 New, Gustavus S. 40 Dey
 Newhall, Geo. M. Eng. Co. Ltd. 41 Wall
 Niles, Henry B. 109 Liberty
 Nirnheim & Palme lo, 14 Dey

O'Connor, John F. K. 16 Exchange pl
 O'Kelly, J. Morris, 82 Broadway
 Odell, Wm. H. 45 Dey
 Olney, Geo. 17 Broadway
 Olson, Nicholas O. 84 Thomas
 Oppenheim, Edward C. 32 Thomas
 Paine, C. & Sons, 71 Broadway
 Palmer, Richard E. 32 Liberty
 Parsons, Harry De B. 20 William
 Pattison Bros. 137 Broadway
 Pendleton, John H. 5 Beekman
 Petro, Palmedo David, 143 Liberty
 Philp, C. V. 18 Liberty
 Pastor, Phillip, 15 Cortlandt
 Pollock, Alexander, 15 Cortlandt
 Potter, Fred. D. 15 Cortlandt
 Price, Geo. B. 49 Dey
 Raettig, Chas. 24 State
 Randall, Geo. F. 111 Broadway
 Read, Albert D. 21 Beekman
 Reynolds, Geo. H. 15 Cortlandt
 Roberts, John, 391 Fourth av
 Rodgers, W. H. 63 Fulton
 Roelker, Hugo B. 41 Maiden la
 Rossi, August J. 35 Broadway
 Schloss, Newton
 Scholl, Julian & Co. 40 Cortlandt
 Schubert, Julius, 24 State
 Schulze, Rudolph P. 45 William
 Seller, Henry W. 136 Liberty
 Serrell, L. W. 10 Wall
 Sewall, C. H. & Co. 17 Broadway
 Shedlock, Alfred, 5 Beekman
 Shipman, Jas. W. 154 Nassau
 Smith, J. E. 29 Broadway
 Spies, Albert, 22 Cortlandt
 Staats, R. P. & J. H. 35 Broadway (see add
 p. 133)
 Starkey, John W. 17 Amsterdam av
 Steele, David, 19 Whitehall
 Stillman, Oscar B. 58 William
 Strong, Geo. S. 45 Broadway
 Stuart, Sinclair, 16 Exchange pl
 Sutton, John W. 155 W. 29th
 Thomas & Schlessinger, 5 Beekman
 Thompson, Crawford & Co. World bldg
 Tourtelotte, Edw. F. 21 Park row
 Turner, W. S. 76 Cortlandt
 Van Winkle, Franklyn, 126 Liberty
 Voss & Evans, 405 E. 47th
 Wahl, Louis & Co. 124 E. 129th
 Walters, Julius W. 5 Beekman
 Waring, John B. 4 Pearl
 Watkins, Alfred E. 173 Broadway
 Weightman, Wm. H. 29 Broadway
 Weissenborn, Gus. 381 Pearl
 White, W. H. 74 Wall
 Whitton, James, 19 Whitehall
 Williams & Potter, 15 Cortlandt
 Winslow, Edward J. 161 Broadway
 Wolff, Alfred R. Potter bldg. room 315
 Wood, Edgar J. 243 Broadway
 Woodbridge & Turner, Times bldg
 York, Herbert W. 22 Cortlandt

MECHANICAL RUBBER GOODS MFRS.

Ameriean Rubber Co. 78 Reade, 177 Church
 Ballard, Stephen, Rubber Co. 123 Chambers
 Boston Belting Co. 100 Chambers, Benjamin
 F. Elson, agent
 Columbia Rubber Works Co. 65 Reade
 Donegan & Switt, 11 Murray
 Gould's, M. Son & Co. 165 Duane
 Gutta Percha & Rubber Mfg. Co. 35 Warren
 Imperial Rubber Co. 134 Liberty, George E.
 Austin, manager
 Leonard & McCoy, 118 Liberty
 Mineralized Rubber Co. 18 Cliff
 New Jersey Car Spring & Rubber Co. 10
 Barclay
 N. Y. Belting & Packing Co. 15 Park row
 (see add front inside cover)
 New York Rubber Co. 52 Reade
 Peerless Rubber Mfg. Co. 15 Warren
 Revere Rubber Co. 64 Reade
 Waterbury Rubber Co. 49 Warren (see add p.
 72)

MEMORIAL WINDOWS.

Ameriean Tapestry & Decorative Co. J. F.
 Douthitt, 286 Fifth av (see add p. 91)
 Armstrong, M. & Co. 61 Washington sq. S
 Belcher Mosaic Glass Co. 123 Fifth av
 Booth, Charles, 47 Lafayette pl
 Bouche, Henry L. 874 Broadway (see add p.
 93)
 Colgate Edward, 318 W. 13th
 Decorative Stained Glass Co. The, 46 Wash-
 ington sq So.

THE DECORATIVE STAINED GLASS CO.

Makers of

ECCLIESIASTICAL & DOMESTIC

✻ **STAINED GLASS.** ✻

46 Washington Square, South, New York.

Glass Mosaic, Memorial Windows. Special Attention
 Given to Architects' and Artists' Commissions.

See Advertisement, page 88.

Fischer, Schroeter & Co. 105 W. 42d
 Gibson's, Wm. Sous, 142 E. 33d
 Grout, Edward P. 66 Liberty (see add oppo-
 site First Ward)
 Hall, J. T. Mohawk bldg. 160 Fifth av
 Heinigke & Bowen, 33-35 E. 12th
 Lamb, J. & R. 59 Carmine
 McMahon, Patrick F. 178 Wooster
 Matthews Decorative Glass Co. 328 E. 26th
 Mayer & Co. 20 Murray
 Smith, David N. 1378 Broadway
 Smith, J. M. 91 Charles
 The Falk Art Glass Works, 34 E. Houston
 Tiffany Glass Decorating Co. 333 Fourth av

MEMORIAL WINDOW GUARDS.

Anderson, H. C. & Co. 148 W. Broadway
Bataille, Achille, 122 W. Broadway (see add p. 23)
De Witt Wire Cloth Co. 32 Reade (see add p. 26)
Estey, W. S. 65 Fulton (see add p. 24)
Hopkins N. Y. Steam Wire Works, 90 W. Broadway
Howard & Morse, 45 Fulton (see add p. 5)
McMurray, Robert T. & Bro. 141-143 Centre (see add p. 25)

METAL BROKERS.

Alburtis, C. W. 35 Liberty
Archer, J. J. 20 Cliff
Behr & Steiner, 93 John
Boynton, George A. 47 Broadway
Browne, Jarvis B. 2 Platt
Burke, John A. 47 Broadway
Byrne, Edward F. 54 Cliff
Byrne, Joseph & Son, 104 John
Cabot, John F. 78 William
Caswell, Edward A. (lead) 109 John
Clark, George W. 22 Burling sl
Crane, H. P. 117 John
Crane, U. O. & Co. 74 Wall
Cunningham, Joseph L. 53 Broadway
Darlington, Gustavus C. 206 Broadway
Evans, Geo. A. 40 Wall
Freckler, George N. 284 Pearl
Friedenstein, J. 2 Platt
Gerry, Alsten Co. 40 Wall
Gleason, Chas. W. & Co. (pig iron) 32 Liberty
Goodwin, Robert N. 104 John
Graves, O. W. & Co. 19 Cliff
Hagan, William, 234 Pearl
Hazard, T. D. 80 Wall
Hernsheim, L. 40-42 Wall
Heyne, F. W. Bros. 13 William
Houston, D. & Co. 22 Platt
Ives, Wm. J. 81 New
Jones, George W. 56 Wall
Jøpp, O. L. 74 Wall
Kettell, G. B. 53 Broadway
Lansing, Edwin B. 89 Fulton
Lobdell, J. H. & Co. 9 Cliff
Lukens, L. N. 22 Gold
McKenna, Thomas J. 192 Broadway
Meehling, Herman C. 83 Fulton
Mendell & Thompkins, 284 Pearl
Middleton, William S. 52 John
Nissen, George, 22 Burling sl
Paulsen, William, 10 Burling sl
Pope, James E. 22 Burling sl
Pope's, Thomas J. Sons & Co. 292 Pearl
Raht, Charles, 35 Pine
Russell, W. I. & Co. 2 Burling sl
Saportas, A. C. (export) 52 Broadway

Skilton, J. A. & Son, 31-33 Broadway
Stricker, William (lead) 284 Pearl
Thomas, Charles C. (pig iron) 117 John
Trench, Charles S. & Co. 54 Cliff
Weber, C. W. B. 17-19 William
Western Agency, Ltd. 81 New
White, E. P. & Co. 20 Cliff
White, John E. & Co. 62 William
Wood, George R. 53 Broadway
Woodruff, F. H. 19 Whitehall
Wright, George H. (iron and steel) 68 Wall

METAL CEILINGS.

Dale Tile Mfg. Co. 398 Broome (see add p. 49)
Lyles & Mills, 231 William
McCallum, John & Co. 36 Eleventh av
Moseley Iron Bridge & Roof Co. 5-7 Dey (see add p. 49)
Mullins, W. H. 108 Chambers, Julius T. Wagner, Agt.
Northrop, Henry S. 30 Rose

HENRY S. NORTHROP,

MANUFACTURER OF

STAMPED STEEL CEILINGS

IN MANY DESIGNS,

CORRUGATED & PANELED IRON CEILINGS,
30 ROSE STREET, NEW YORK.

See Advertisement, opp. Fourth Ward Map.

N. Y. Iron Roofing & Corrugating Co. The.
29 Broadway (see add p. 51)
O'Crowley, M. F. 138 Broad

METAL DEALERS.

Abbott, Jere & Co. 23 Cliff
Abrahams, E. (old) 50 Ann
Ackerman, John H. & Co. (wholesale) 259 Pearl
Aluminum Product Co. 468 Cherry
American Improved Anti-Friction Metal Co. 11 Wall
American Metal Co. Ltd. 80 Wall
Anderson, B. C. & Co. 209-211 King
Ansonia Brass & Copper Co. (wholesale) 19-21 Cliff
Baker-White Brass Co. (anti-friction meters) 3 York
Blake & Co. (old) 137 Barrow
Bleecker, Augustus & Sons, 78 Front
Bloeh, Raphael, 215 William
Blumenthal, Henry, 652 Sixth
Bornholz & Co. 143 Bank
Bornstein, Morris (old) 24 Ann
Boyce, James (old) 34 Spring
Brady Metal Co. (Babbitt metal, solder and brass) 115 Broadway
Bridgeport Brass Co. (wholesale) 19 Murray

- Bruce & Cook (wholesale) 188-190 Water & 248-250 Pearl
 Brull, Louis, 84 Pike
 Burgass & Co. (old) 284 Pearl
 Byrne, Jos. & Son, 104 John
 Carroll, Richard (old) 386-387 South
 Case & Lewis, 249 Pearl
 Church & Slight, 109 Fulton
 Clinton Wire Cloth Co. (mfrs. perforated sheet metal) 76 Beekman, George E. Howard, manager
 Coddington, T. B. & Co. (wholesale) 27 Cliff
 Colwell Lead Co. 63 Centre
 Consolidated Kansas City Smelting & Refining Co. (pig lead) 20 Nassau
 Conway, E. & Co. (wholesale) 203 E. 78th
 Copeland, Andrew, 50 Ann
 Cort, N. L. & Co. (wholesale and importers) 245-247 Water
 Cotter, Edward, 12 James st
 Cotter, John, 183½ Cherry
 Couse, Charles & Co. (Babbitt) 39 Dey
 Crocker Bros. (pig iron) 32 Cliff
 Crooks, Robert & Co. (wholesale tinplates) 64-66 John
 Cusick, Thomas, 4 Sullivan
 Damerel, George, World bldg. Park row
 Danvers, Robert E. (old) 513 E 17th
 Davol, John & Sons, 100 John
 Day, Addison L. 99 John
 Demilt, H. R. & Co. (wholesale) 238 Water
 Dickerson, Van Dusen & Co. (importers) 29-31 Cliff
 Donegan & Swift, 11 Murray
 Donnelly, M. & Co. (old) 134 Le Roy
 Donnelly, Samuel & Co. (wholesale) 419 E. 22d
 Donovan, D. & Son (old) 157 South
 Drake, Jos. H. 100 Beekman
 Drummond, M. J. 192 Broadway
 Dusenbury, Charles, 83 Maiden la
 Dusenbury's, Thomas, Sons, 533-535 W. 24th
 East River Lead Co. 523 E. 19th
 Emmens Metal Co. 54 William
 Everett & Post, 104 John
 Fearing, W. S. 100 Chambers
 Fisher, E. A. (zinc) 115 Broadway
 Fox, John (wholesale) 160 Broadway
 Fox, John C. (old) 617 W. 38th
 Frank, Louis, 612 Sixth
 Friedenstien, Joseph, 96 John
 Frost, Thomas B. 1726 Broadway
 Gilmartin, James, 458 Washington
 Gleason, Charles W. & Co. 19 Liberty
 Gleason, John, 32 Marion & 211 Elm
 Goldsmith & Loewenberg, 5 Beckman
 Griggs, E. D. (brass) 61-63 Duane
 Hagam, Wm. 234 Pearl
 Hallheimer, Albert, 106 Av. B
 Hanley, John F. (wholesale, old) 362 Av. A
 Hannon, John (old) 589 Greenwich
 Harrington & King Perforating Co. (mfrs. perforated metals) 284 Pearl
 Hart, Lucius & Co. (importers) 10 Burling st
 Hendricks Bros. (wholesale) 49 Cliff
 Hennessy, John & Sons, 257 South
 Hogg, Andrew H. 21 Murray
 Holbrook, Chas. T. 95 Liberty
 Hoopes & Shipman, 1526 Broadway
 Hoyt Metal Co. 99 John
 Hubbard, Charles & Co. 284 Pearl
 Jacob, Henry E. 37 Wall
 Judson, B. F. (old) 457-459 Water
 Kahn Bros. (wholesale) 525 E. 19th
 Katz, Ferdinand (old and new) 421 E. 13th
 Kuhe, E. (type importer) 115 Worth
 Kursheedt, A. (old, importer) 35 Liberty
 Lamarche's, H. Sons, 83 John
 Leavitt, C. W. & Co. (wholesale) 171 B'dway
 Lewisohn Bros. (importers) 81-83 Fulton
 Lissberger, L. & Co. 283 Pearl
 London, Neuman, 84 Pike
 Lowenstein, B. & Bro. (old and new) 4-6 Desbrosses and 544 W. 16th
 McCallum, John & Co. 36 Eleventh av
 McKenna, Thomas J. 192 Broadway
 McLaughlin & Gleason, 62 Spring
 McLean Bros. & Rigg, 52 New
 McNulty, Patrick (old) 251 Stanton
 Mackey, Geo. D. 64 Gold
 Magnolia Anti-Friction Metal Co. 74 Cortlandt
 Mahon, John S. 67 E. 129th
 Mahoney, James J. 33 South
 Marvel, William D. 1 Broadway
 Mechling, H. C. 83 Fulton
 Merchant & Co. (wholesale) 247 Pearl
 Merry, John & Co. (wholesale) 535-547 W. 15th (see add p. 66)
 Miller, Charles A. (wholesale) 83 Maiden lane
 Moers, E. M. 227 Front
 Montague, W. W. & Co. 83 Fulton
 Montgomery & Co. 105 Fulton
 Mundt & Son, (mfrs. perforated metal) 88-90 Walker (see add p. 52)
 Naylor & Co. (wholesale) 45 Wall
 Neumark & Gross, 125 Broad
 New York Smelting & Refining Co. (old and new) Jane c West (see Sash Weights, Lead)
 Osgood, F. & Co. (wholesale) 21 State
 Owens Bros. (old) 400 Eleventh av
 Patterson Bros. 27 Park row
 Patterson, Gottfried & Hunter, Ltd. (retail) 146-150 Centre
 Perkins, F. E. & Bro. (old) 405-407 South
 Phelps, Dodge & Co. (wholesale) 11 Cliff
 Pierson, C. L. & Co. 16 Exchange pl
 Pope's, Thomas J. Sons & Co. 292 Pearl
 Post, E. L. & Co. ("zero" anti-friction metal) 10 Peck st
 Quincy, John W. & Co. (wholesale) 420 Cherry and 98 William
 Revere Copper Co. 242 South
 Richards, Daniel W. & Co. (wholesale, old) 88-96 Mangin & 68 Wall
 Rolet, P. (old) 237 W. 26th
 Rotchford, H. & Son, 420 Cherry
 Ryan, Francis L. 8 Madison
 Samuel, D. & A. 76 Carmine
 Sanborn, John (wholesale) 217 Water
 Scarabelich, John, 185 Ludlow
 Schawel, J. & Co. (importers platinum) 23 John
 Schultz, Otto & Co. 420 E. 53d

Schwabacher, Ludwig, 283 Pearl
 Sel, Benjamin, 89 Division
 Sinnott, John (old) 403 W. 37th
 Solomon Bros. (old and new) 127-129 Roosevelt
 Strong, Hugo A. 52 William
 Sullivan Bros. 254 South
 Thomson, A. A. & Co. (importers) 213-215 Water
 Thomson, D. & Co. 215 Water
 Thowless Aluminum Co. 38 Park row
 Tobin, R. & Son, 260 West
 Turner, Wm. J. 9 Burling sl
 Vagt, Chas. 100 Maiden la
 Verry, Leon, 218 Thompson
 Wallace & Sons (wholesale) 29 Chambers
 Ward, Michael, 519 W. 55th
 Wessell, Chas. & Chas. A. 521 W. 24th
 Whitenack, Samuel E. 3 York
 Whittemore, H. & Co. 58 William
 Wildes, Thomas, 246 Water
 Williams Aluminum Co. The (alloy aluminum) 95 Liberty
 Wilson Anti-Friction White Metal Co. 51C-512 W. 33d
 Woltman, E. 11 Wall

METAL, EXPANDED.

Central Expanded Metal Co. 67 Reade, H. K.
 Combs, manager (see add p. 114)

METAL LATHING.

Bailey, Theo. Tenth av & 151st (see add p. 9)
 Bostwick Metal Lath Co. 38 Park row

John Dickson, Pres. W. W. Bostwick, Vice-Pres
 E. B. Bostwick, Sec. & Treas.

"THE BOSTWICK"

FIRE PROOF STEEL LATH,

Recommended by Architects. Extensively Used by Builders.

Manufactured by BOSTWICK METAL LATH CO.,
 38 Park Row (Potter Building), N. Y. City.

See Advertisement, page 113.

Central Expanded Metal Co. 67 Reade

FIRE PROOF STEEL PLASTERING LATH, Made from Expanded Metal.

Best Metallic Lath made. It is easily applied without Stretching or Furring, Making Perfect "Key" and Solid Work. Expanded Metal in other Forms is Used for Fences, Gates, Window Guards, &c. Write for Illustrated Catalogue No. 20.

Central Expanded Metal Co., 116 Water St., Pittsburgh, Pa.
J. K. Combs, 67 Reade St., N. Y. City.

See Advertisement, page 114.

Cheney & Hewlitt, Potter bldg, 38 Park row
 (see add p. 41)

Clinton Wire Cloth Co. 76 Beekman, George
 E. Howard, Agt
 Cornell, J. B. & J. M. 141 Centre (see add pp. 35, 37, 39)
 Hayes, Geo. 71 Eighth av

THE "HAYES" METALLIC SKYLIGHTS

And Other Glazed Structures. Also the "Hayes,"
 Corrugated and Plain Metallic Lathing.

71 EIGHTH AVENUE, NEW YORK.

See Advertisement, page 8.

Howard & Morse, 45 Fulton (see add p. 5)
 Roebling, John A. Sons Co. 117 Liberty

METAL ORNAMENTS.

Baynes Tracey & Mosaic Co. 607 W. 36th
 Briggs, Alfred A. 124 E. 129th
 Brill, Edward E. 337 E. 6th
 Cary, Henry & Sons, 130 E. 129th
 Denham, W. R. 101 Bleecker
 Goldberg, B. 529 Broadway
 Hecht, Max & Bro. 232 Canal
 Hecker, August, 123 Forsyth
 Hirt & Hagdon, 279 Ave B
 Judge, J. L. 8 Fulton
 Keyser, Louis M. 88 Walker
 Koehn, Alfred, 106-108 Seventh av
 Lane Mfg. Co. 350 Canal
 Langfeld & Cohen, 120 Walker
 Ludwig, A. 33 John
 Lyles & Mills, 231 William
 McCallum, John & Co. c. Washington and Ves-
 try
 Manhattan Brass Co. 333 E. 28th
 Messer, Louis & Co. 174 Worth
 Miller, William, 449 W. 41st
 Monsheimer, Louis, 196 E. Broadway
 Mullins, W. H. 108 Chambers, J. T. Wagoner,
 agent
 Northrup, Henry S. 30 Rose (see add opposite
 Fourth Ward)
 Plaut Brothers, 8 Thomas
 Pries, William H. 434 Canal
 Richmond, A. M. 437 Broadway
 Schunemann, Chas. H. 2 and 4 Howard
 Steel & Johnson Mfg. Co. 35 Howard
 Steiner, Phillip, 426 Broome
 Unique Mfg. Co. 130 So. Fifth av
 Vanderbilt, Isaac T. 272 Mercer
 Vogt, Ewald, 1762 Second av
 Wagner, J. T. 108 Chambers
 Winter, John E. 96 John

METAL ROOFERS.

Abbott's, M. Sons, 138 Eighth av. and 316 W.
 16th
 Abel, Christian F. 53 Orchard
 Alexander Bros. 3 Pelham

Alsfeld's, Christian, Sons, 235 Delauey
 Architectural Sheet Metal Works, 205-207 E.
 99th
 Avery Stamping Co. 72 Beekman
 Axtmann, Chas. A. 1602 Third av and 45 E.
 125th
 Baumann, Chas. 291 Seventh av
 Beattie, Andrew, 33 Second
 Beck, Chas. 598 Ninth av
 Becker, John C. L. 174 E. 87th

J. C. L. BECKER,
✻ METAL ROOFER, ✻

And Manufacturer of
 CORNICES, GUTTERS, LEADERS, AND
 METAL SKY-LIGHTS.

174 East 87th Street, NEW YORK.
 Bet. Lexington and Third Aves.

Bergeman, Julius, 145 Sixth av
 Berglund, Charles, 774 Third av
 Bersinsky, M. 59 Forsyth
 Bickelhaupt, G. 243-245 W. 47th (see add p. 6)
 Biegen, Adam, 156 Third av

ADAM BIEGEN,
SLATE AND METAL ROOFING,

156 THIRD AVENUE,
 Bet. 15th and 16th Sts., NEW YORK.

Cornices and Window Caps. Tin, Copper and Sheet
 Iron Work. Furnaces and Ranges put up and Repaired.

Blackledge & England, 54 W. 29th
 Blech, M. 18 Forsyth
 Blechner, Albert, 2985 Third av
 Bloch, J. 1447 Second av
 Bloomer, John A. 11 E. 10th
 Blumstein, H. 3 Eldridge
 Bolan, D. 136 Varick
 Bolland, Daniel, 273 Hudson
 Boll, Oscar, 175 Third
 Borkel, John, 42 and 44 E. Houston
 Brady, Phillip & Co. 863 Sixth av
 Braudt, Fred. 169 E. 85th
 Brandt, William H. 555 E. 140th
 Breivogel, George, 36 Rose
 Brendel, M. 509 W. 28th
 Brinkman, Louis H. 241 E. 42d
 Brinkman, S. G. 159 E. 48th
 Bruntzinger, William F. 672 Eighth av
 Brown, Westley, 3191 Third av
 Buchsbaum, Joseph, 126 Delaney
 Buel, Peter, 183 Seventh
 Burkelman, Charles, 32 Sullivan
 Buras, Robert, 287 Tenth av
 Cambridge Roofing Co. 35 Broadway
 Carlier, Louis, 753 Sixth av
 Cassidy, Chas. O. C. r. 122 E. 11th
 Chadwick, Daniel, 136 Varick
 Christ, John C. & Son, 263 William
 Clark, Thomas, 479 W. 150th
 Cohen, Lewis, 186 Ninth av
 Collins, James H. 204 W. 18th
 Comins & Evans, 81 Fulton
 Conway, D. & Sons, 173 Broadway
 Cooney & Norman, 175 Boulevard
 Cooper & Levine, 50 Ludlow
 Coot, John, 15 Seventh av
 Coot, William H. 178 Wooster

Cornelius, George A. 141 Attorney
 Cunnion, James & Son, 112 Fulton
 Curran, Patrick, 240 Seventh av
 Curry, Patrick, 530 Broome
 Dalton, Thomas W. 95 Sheriff
 Darey, Felix, 163 E. 31st
 Deacon, William, 17 Eighth av
 Deegan, Edward J. 1885 Fordham av
 Degeorge Anton, 501½ W. 49th
 Degnan, John, 556 Ninth av
 Delaney, Henry, 1024 Third av
 Dennerline, Peter, 214 E. 119th
 Dexheimer, Henry, 2306 Eighth av
 Diamond, M. 409 Fourth av
 Dohrenwend, Wm. 230 Columbus av

WM. DOHRENWEND,
ROOFS REPAIRED & PAINTED,

230 COLUMBUS AVENUE,
 Between 70th and 71st Sts., NEW YORK.

Furnaces and Ranges Cleaned and Repaired. Repairs
 for all Stoves and Ranges.

Doran, Edward, 476 Hudson

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TIN, SLATE and METAL
ROOFING,

No. 476 HUDSON STREET,
 Near Grove Street, New York.

Dreyer, Gustav, 224 Division
 Dreyer, Louis, 339 W. 18th

LOUIS DREYER,
 MANUFACTURER OF
Galvanized Iron Cornice Works,

No. 339 West 18th St., bet. 8th & 9th Aves., N. Y.
 Window Caps, Balustrades, Metal and Slate Roofing.
 Ornamental Zinc Castings for Buildings. Artistic Cast-
 ings, as Busts, Figures, etc.

Dugan, Robert J. 162 Mulberry
 Dunn, Lawrence J. 1231 Second av
 Dusenbury, George, 28 Church
 Dusenbury, W. W. 86 Broad
 Eckert, Benjamin, 400 Bleecker
 Eckert, E. C. & Son, 232 W. 41st
 Elkan, S. 2033 Second av
 Ellertsen, Louis, 26 Attorney
 England, Richard, 54 W. 29th
 Ennis, Lawrence, 204 Fifth
 Ennis, William, 152 Sullivan

WILLIAM ENNIS,
SLATE AND METAL ROOFER,

No. 152 Sullivan Street,
 Bet. Prince and Houston Sts., NEW YORK.

Roofs Repaired and Painted. Cornices, Gutters and
 Leaders.

Eppinger, Wm. & Son, 3611 Third av
 Euler, Henry, 83 Fourth av
 Federroll, R. 267 W. 35th, 372 Seventh av
 Finley, John, 2 Ridge

JOHN FINLEY,
SLATE AND METAL ROOFER,

No. 2 RIDGE STREET,

Corner Division St.,

NEW YORK.

Leaders, Gutters and Cornices. Skylights, Window Caps and Sills. Tin and Slate Roofing. Roofs Repaired and Painted. All orders Thankfully Received and Promptly attended to. Residence, No. 29 Ridge St.

Fischer, George & Brother, r. 209 Forsyth
Fitzsimons, M. & Co. 224 W. 36th
Flanagan, John, 396 Fourth av
Foerster, J. 806 Fifth
Frazier, George W. 159 Prince
Fuhler, John, 564 Jackson
Gallagher, Michael, 33 Roosevelt
Gerber, Aime, 333 W. 38th
German American Roofing Co. 139 E. Broadway
Germeck, Carl, 975 E. 161st
Gilligan, Michael, 372 Tenth av
Glasser, J. & M. Mendauschik, 691 Second av
Goldman, Bernard, 211 W. 62d
Gompers, S. 227 E. 107th
Good, William E. 316 W. 17th
Goodwine, Philip, 20 Eighth av

PHILIP GOODWINE,
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Copper, Zinc, Tin and Sheet Iron Worker.

20 EIGHTH AVE., NEW YORK.

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Gorton, S. & W. r. 19 W. 30th
Graham, David S. 2136 Eighth av
Grant, D. Lewis, 83 Cedar
Gregory, Francis, 45 Market
Gregory, James, 140 W. 38th
Griggs, & Crowley, 294 Sixth av

CRICCS & CROWLEY,
PRACTICAL
ROOFERS AND TINSMITHS,

294 SIXTH AVENUE, N. Y.

Gutters, Cornices, and Skylights. Prince's Metallic Paint.

Gross, Chas. 1644 Second av
Guinea, Daniel, 301 E. 63d
Gulde, Julius, 80 Third
Gundlach, John, Col. av. and 126th
Gunning, John, 293 Tenth av
Hagan, Thomas, 227 E. 56th
Hainsley Metal Roofing Co. 18 Cliff
Halliday, Mitchell, 28 E. 9th
Hannan, John W. Tremont av. n Vanderbilt av
W
Harder, Albert, 38 Lenox av
Harlem Roofing Co. 543 E. 116th
Harrison, Timothy, 235 Centre
Harrison, M. & Son, 214 E. 52d
Harvey, George M. Tremont av. near Third av
Hassler, George, 168 Eldridge
Hatch, Chas. 821 Ninth av
Hatfield, S. 151 W. 25th
Hawkins, Nicholas, 119 W. 25th
Hayes, Geo. 71 Eighth av (see add p. 8)
Hehn, John, 409 Fifth
Heller, I. 12 Bayard

Herman, Geo. 79 Chrystie
Herz, David, 1439 Third av
Higgins', S. Son. 379 Lexington av
Hindley, Thos. & Son, 819 Sixth av
Howard & Harris, 307 W. 44th
Hubbig, August, 121 W. 30th
Hupfer, Nicholas, 50 E. Houston
Irving, George H. & Brother, 403 W. 24th
Isted, Thomas M. 2015 Seventh av
Jacob, August, 260 E. 78th

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Iron Cornices, Slate and Metal Roofing,
And Metal Sky-Lights,

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Attended to.

Jacobs, Abraham, 528th Ninth av
Johnson, George, 56 Oliver
Jones, William H. 692 Eighth av
Jordan, Calvin R. 188 W. 4th
Josephowitz, Henry, 554 Ninth av
Kalbert, Alfred, 154 Fourth av
Kearney, John, 413 W. 22d
Keavey, Michael, 339 Hudson
Kenney & Murphy, 196 Cherry
Kenney, Joseph, 431 W. 53d
Kervan, Matthew C. 106 W. 127th
Kirk, Charles H. 1109 Washington av
Kissling, Aug. 366 Amsterdam av
Klenert, Jacob, 364 Grand
Kluck, J. 672 Eighth av
Knauss, G. 48 E. 1st
Kneale, Edward, 129 Prince
Knoblach, John W. r. 211 Third
Koshminsky, Isidor, 1051 Third av
Kreiger, Chris. 324 Tenth av
Kress, Frederick, 251 Eighth av
Lang, Morris, 2042 Second av
Langerstedt, Lawrence, 161 E. 86th
Lederer, Chas. 40 Bond
Lesawage, John, 40 Duane
Levy, Benjamin B. 207 E. 121st
Levy, Leon, 6 Jefferson
Lewis, John A. 46 Rose
Lippatt, F. T. 587 Columbus av
Luftburron, J. E. 15 Columbus av
McArdle, Peter H. 154 E. 35th
McCann, Edward, 442 First av
McGowan, P. & Son. 204 E. 81st
McKaig, John, 58 Eighth av
McLaughlin & Gleason, 62 Spring
Machwirth & Smith, 424 Fourth av
Mackey, John, 297 Seventh av
Maguire, Andrew, 35 Third av
Mahon, John S. 67 E. 123th
Mahoney, Daniel, 121 Ninth av
Manning, John, 599 E. 134th
Mantel, C. 32 Carmine
Mantershelt, Michael, 442 Eighth av
Mathews, James & Son, 172 E. 116th
May, William M. 609 W. 52d
Melchoir, Frederick, 1041 Park av
Miller, John & Son, 634 Ninth av
Miller, William, 634 Ninth av
Mills, James, 216 Mulberry
Morgan, J. P. 1301 Third av
Morio, George, r 1244 Cannon
Morris & Goldman, 21 Orchard
Morrow, John, 225 W. 50th

Mosely, John S. 189 West
 Mosley Iron Bridge & Roof Co. 5-7 Dey (see add p. 49)
 Moskowitz, Israel, 128 Ridge
 Muhlethaler, Chas. 342 E. 33d
 Mullen, Michael, 224 Sixth av
 Muller, Charles, 318 Pearl
 Muller, Henry, 244 E. 54th
 Mulligan & Co. 242 Ninth av
 Muntz, Adam, 902 Eighth av
 Murphy, George M. 43 New Chambers
 Nadel, D. 532 E. 6th
 National Sheet Metal Roofing Co. 9 Cliff
 Neil, John, 445 W. 16th
 Netter, John, 344 E. 33d
 Neumann, Louis, 393 Third av

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 Copper, Zinc, Tin and Sheet Iron Worker. Furnaces,
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 Residence, 1623 First Avenue.

N. Y. Roofing & Corrugating Co. 29 Broadway
 (see add p. 51)
 N. Y. Roofing Co. 437 E. 23d, 10 Warren and
 445 Pleasant av
 Newohner, Aug. 347 E. 105th
 Nicholson & Galloway, 646 Hudson
 Norman, Edward, 175 Boulevard
 Norris, Thomas, 207 E. 47th
 O'Brien, M. J. 835 Sixth av
 O'Callagan, Thomas, 42 W. 62d
 O'Crowley, M. F. 41 Ann
 O'Shaughnessy, Michael, 409 W. 13th
 Ottiwell, John D. 199 Third av

**JOHN D. OTTIWELL,
 GALVANIZED IRON CORNICES,
 METAL ROOFING,
 HOT AIR FURNACES, RANGES,
 199 THIRD AVENUE, NEW YORK.**

Pace, Geo. A. & Co. 640 Madison av
 Park, Lewis, 887 First av
 Parshall, William V. & Son, 295 Mott
 Perelstein, Louis, 26 Market
 Peterson, Wm. T. 10 Marion
 Pienkert, Peter, 94 Orchard
 Powers, E. 952 First av
 Quetting, Adolph, jr., 48 Canal
 Reich, Wm. 848 First av
 Reihert, Christian, 106 Essex
 Reilly, Christopher, 322 Eighth av
 Reilly, John, 154 Third av
 Reineke, F. G. 68 Forsyth
 Riedel, Henry, jr. 168 Second
 Robinson, Wm. G. 212 Third av
 Rooney, T. & Co. 1631 Broadway
 Royce, Herbert A. 1825 Park av
 Rubenstein, Selig, 61 Ridge
 Ryan, Patrick J. 1844 Second av
 Ryan & Thompson, 103 Lewis
 Sacks, H. 1483 Second av
 Saron, David, 45 Pearl & 32 Bridge
 Sassenberg & Behles, 468 Fourth av

Schafeberg, Chas. 64 Amsterdam av
 Schellmann, Valentine M. 139 Spring
 Scherrer, Conrad, 448 Seventh av
 Schieber, John J. 1176 Second av
 Schmidt, Henry & Son, 212 Centre
 Schullhoff, R. 141 Attorney
 Schwartz, Hyman, 27 Chrystie
 Schweikert, William, 798 Third av
 Schwoerer, Jacob, 8 Second (see add p. 142)
 Seidel, Henry F. 470 Hudson
 Sel, Benjamin, 98 Division
 Sellheim & Merz, 532 Pearl
 Sheahan, C. F. 397 Ninth av
 Sherwood Bros. 170 E. 62d

**SHERWOOD BROS.,
 Manufacturers of
 METAL ROOFS and SKYLIGHTS,
 170 EAST 62d STREET,
 Near Third Avenue, NEW YORK.**

Ranges, Furnaces and Heaters Set, Cleaned and Re-
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 Simpson, Isidor H. 1505 Ninth av
 Smith, George, 411 Second av

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Cornices, Gutters and Leaders Made and put up. Old
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 Smith, James, 424 Fourth av
 Stege, E. 505 E. 5th
 Steinke, August, 826 Elton av
 Steinmetz, Jacob, 166 Second
 Stretz, F. 190 Centre (see add p. 66)
 Swift, John, 904 Eighth av
 Tects, Samuel A. 507 Eighth av
 The National Sheet Metal Roofing Co. 9 Cliff
 Timmons, John, 203 W. 17th
 Turton, Thomas, 85 Maiden la

**THOMAS TURTON,
 Improved Plastic-Slate Roofing,
 No. 83 Maiden Lane,
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Rock Asphalt Roofs and Floors. Plastic-Slate Paint,
 Coating and Cement. Tin Roofs Coated and Floors Made
 Water-Tight. All Roofs Guaranteed. Telephone, 786
 Cortlandt.

See Advertisement, page 73.

Valentine, B. C. & Co. 219 Greene
 Viereck, H. 421 Third av
 Vincent, W. E. D. 445 W. 45th
 Waidelich, G. 152 Ninth av
 Walsh, Henry J. 37 Sullivan
 Walsh, John J. 255 E. 127th
 Walsh, Michael, 10 Jackson
 Wanzer, Charles, 205 Lewis
 Webster, Geo. G. 432 Eleventh av
 Werner, George F. 408 E. 77th
 Whitmore, Joseph B. 260 Eighth av

Williams, Wm. Tenth av e. W. 100th
 Williamson, George, 76 Sullivan
 Wills, Wm. H. 154 E. 27th
 Wines, Wm. D. 44 Centre
 Winter, Jacob, 141 E. 59th
 Winters, Charles, 68 Grove
 Wolff, Charles, 3-7 Rector

METAL ROOFING MATERIALS.

Burkelman, Charles, 16 Grand
 Childs, Wm. H. H. 73 Maiden la
 Druid Felt Co. 82 John
 Galt, John & Sons, 52 John
 Germania Roofing Co. 16 Grand
 Glines, Moses K. 39 W. Broadway
 Hainsley Metal Roofing Co. 18 Cliff
 Hewitt, C. B. & Bros. 48 Beekman
 Hoopes & Shipman, 1526 Broadway
 Indiana Paint & Roofing Co. 42 W. Broadway
 Johns, H. W. Mfg. Co. 87 Maiden la
 Lee Composite Mfg. Co. 29 Broadway
 Manahan Parelment & Moth Paper Works, 6 Reade
 Martin, E. H. & Co. 163 Pearl
 Mica Roofing Co. 73 Maiden la
 Moseley Iron Bridge & Roof Co. 5-7 Dey (see add p. 49)
 New, T. Mfg. Co. MacIntyre bldg. 874 Broadway & 540 E. 20th
 N. Y. Coal Tar & Chemical Co. 10 Warren
 N. Y. Iron Roofing & Corrugating Co. The, 29 Broadway (see add p. 51)
 N. Y. Roofing Co. 437 E. 23d
 Powerville Felt Roofing Co. 132 Maiden la
 Rankin, Wm. H. 91 Maiden la
 Rimington, Stephen A. 19 Whitehall
 Stewart, Wm. H. 182 Front
 Sturges, Wescott & Harold Co. 182 Front
 Swan, Alfred F. 38 Dey
 Tait, John G. & Co. 100 Maiden la
 Tucker, William G. foot of E. 116th
 Turton, Thomas, 83 Maiden la (see add p. 73)
 Vanderbilt, George, 501 W. 14th
 Warren Chemical and Mfg. Co. 81 Fulton
 Wheeling Corrugating Co. 81 Fulton
 White, George A. 36 John
 Wootton, Edwin H. 35 Broadway

METALLIC PIPE AND BOILER COVERINGS.

Gilmour, Robert M. 82 John
 Keasbey, Robert A. 58 Warren
 Pollock, Alexander, 15 Cortlandt
 United States Mineral Wool Co. 2 Cortlandt & 173 Broadway (see add p. 112)

METERS, GAS.

American Meter Co. 512 W. 22d
 Crane, Wm. M. & Co. Managers Maryland Meter Mfg. Co. 838 Broadway
 Goodwin Gas Stove and Meter Co. 113 Chambers
 Griffin, J. J. & Co. 52 Dey
 Hearne Imp. Gas Meter Co. 11 Pine
 Maryland Meter & Mfg. Co. 838 Broadway

METERS, WATER.

Freeman Water Meter Co. 104 Chambers
 National Meter Co. 287 Broadway
 Thomson Meter Co. 105 Fulton

THOMSON METER CO.

The Thomson Meter will run in any Position. All Thomson Meters now Fitted with our Patented

STEEL DISC, AND ARE HOT WATER PROOF.

N. Y. Office, 105 Fulton Street, N. Y.
 Telephone, 1404 Cortlandt. General Offices & Factory, 39-43 York, 79-83 Washington Sts., Brooklyn.

See Advertisement, page 110.

Water Waste Prevention Co. 5 Beekman
 Worthington Water Meter Co. 86-88 Liberty

MILLWRIGHTS.

Abele, Chris. 253-255 W. 27th
 Bolton's, G. & J. R. Imp. Hot Water Heater, Geo. H. Raymond, manager, 114 Liberty (see add p. 69)
 Carey, Samuel, 17 Broadway & 12 Pearl
 Carhart, David W. 19 Whitehall
 Cogswell, Mortimer C. 120 Liberty
 Dobler, A. & Son, 333 W. 36th
 Dressler, E. 529 West & 787 Amsterdam av
 Howard Foundry & Machine Works, 114 Liberty (see add p. 19)
 McKenzie, W. 110 Trinity pl
 Muller, Jacob. 418-420 E. 62d (see add p. 52)
 Nebel, M. A. 90 Crosby
 Schock, Gus, 530 W. 20th

MINERAL WOOL BUILDING SHEATHING.

U. S. Mineral Wool Co. 2 Cortlandt

UNITED STATES MINERAL WOOL CO.,

MANUFACTURERS OF

Mineral Wool for Pipe Covering,

2 CORTLANDT STREET,
 NEW YORK.

See Advertisement, page 112.

Mineral Wool Fire Proofing.]

460 [Mosaic, Parquet & Inlaid Floors.

Mineral Wool Pipe and Boiler Coverings.—Mining Machinery.—Monumental and
Architectural Bronze Founders.—Mortar Colors.—Mortar, Dry Cement.—
Mortar, Machine Mixed.—Mosaic, Glass.

MINERAL WOOL FIRE PROOFING.

U. S. Mineral Wool Co. 2 Cortlandt & 173
Broadway

**MINERAL WOOL
FOR DEADENING OF SOUND.
VERMIN & FIRE PROOFING.**
PROTECTION AGAINST HEAT & COLD.
UNITED STATES MINERAL WOOL CO.,
2 Cortlandt Street, N. Y.

See Advertisement, page 112.

MINERAL WOOL PIPE AND BOILER COVERINGS.

Pollock, Alexander, 15 Cortlandt
U. S. Mineral Wool Co. 2 Cortlandt (see add p.
112)

MINING MACHINERY.

Clayton Air Compressor Works, 43 Dey
Fraser & Chalmers, 2 Wall
Krom, Stephen R. 151 Cedar
Pierce & Thomas, 42 Cortlandt
Pollock, Alexander, 15 Cortlandt
Rand Drill Co. 23 Park row (see add p. 2)
The Ingersoll-Sargent Drill Co. 10 Park pl

MONUMENTAL AND AR- CHITECTURAL BRONZE FOUNDERS.

Bonnard, Henry, Bronze Co. 432 W. 16th
Hecla Arch. Bronze & Iron Works, Pulitzer
bldg. show rooms 48-51 (see add p. 28)
Jackson Arch. Iron Works, 315 E. 28th (see
add p. 31)
Lamb, J. & R. 59 Carmine
Power, Maurice J. Office 237 Broadway ;
foundry, 218 E. 25th
Spadone & Cabaret, 105 E. 13th
Williams, John, 544-556 W. 27th (see add p.
36)

MORTAR COLORS.

Cabot, Samuel, 70 Kilby, Boston, Mass.
Devoe, F. W. & Co. 103 Fulton (see add p.
90)
Fisher, Erskine W. 18 Broadway (see add p.
117)

Fleming Cement & Brick Co. 23 Liberty
Swartz, E. H. 23 Av. A (see add p. 106)
The Bridgeport Wood Finishing Co. 249 Pearl
Toch, Bros. 35 Bowery
Tomkins, Calvin, 150 Broadway (see add p.
140)
Williams & Co. 90 Ann

MORTAR, DRY CEMENT.

King's Windsor Cement Dry Mortar Co.
Times bldg. 41 Park row

MORTAR, MACHINE MIXED.

The American Machine Mortar Co. 126 Liber-
ty, E. W. Sutphen, manager

MOSAIC, GLASS.

Bouche, Henry L. 874 Broadway (see add p.
93)
Decorative Stained Glass Co. 46 Washington
sq. S. (see add p. 88)
Douthitt, J. F. 286 Fifth av (see add p. 91)
Fischer, Schroeter & Co. 105 W. 42d
Gibson's, Wm. Sons, 142 E. 33d
Grout, Edward P. 66 Liberty (see add opp.
First Ward)
Heinigke & Bowen, 33 E. 12th
Lamb, J. & R. 59 Carmine
Matthews Decor. Glass Co. 328 E. 26th
Mayer & Co. 20 Murray
Tiffany Glass Decorative Co. 333 Fourth av

MOSAIC, PARQUET AND INLAID FLOORS.

Aeschlimann & Pellairn, 231 E. 28th
Batterson, See & Eiselle, 431 Eleventh av
Boote, Alfred, Broadway, c. 47th
Boughton & Terwilliger, Fifth av & 23d
Boynton & Van Winkle, 129 Fifth av
Cottier & Co. 144 Fifth av, 191 Seventh av
Davidson Sons' Marble Co. Office cor. Elev-
enth av & 27th (see add p. 123)
Davis, Reed & Alexander, 18 E. 15th
Fisher, Robert C. & Co. 97 E. Houston
Gibson's, William, Sons, 142 E. 33d
Hannam, Williams & Co. 23 Union sq
Herter Bros. Fifth av & 20th
Klaber, S. & Co. 47 W. 42d & 58 W. 43d
Koeh, G. W. 168 W. 34th
Kruger & Albert, 314 E. 75th
Lamb, J. & R. 59 Carmine

Mosaics, Marble and Stone, Artistic.—Motors and Dynamos, Electric.—Moulders' Bellows.—Moulders' Riddles.—Moulding Cutter Manufacturers.

National Wood Mfg. Co. 129 Fifth av
New York Flexible Wood Flooring Co. 17
W. 42d

Pope & Gottschalk, 501 E. 70th
Prince & Muir, 310 E. 95th
Rider, Charles E. 315 Fifth av
Stair, E. D. & Co. 7 W. 14th
The Italian Marble Mosaic Co. 412 E. 23d
Traitel Bros. 449 Fifth av (see add p. 82)
Wolkening & Co. 232 E. 44th

MOSAIC, ROMAN.

Aeschlimann & Pellarin, 231 E. 28th
Batterson, See & Eisele, 431 Eleventh av
Conover, J. S. & Co. 28-30 W. 23d (see add p. 85)
Davidson Sons' Marble Co. 27th & Eleventh av
(see add p. 123)
Gibson, Wm. Sons, 142 E. 33d
Lamb, J. & R. 59 Carmine
The Italian Marble Mosaic Co. 412 E. 23d

THE ITALIAN MARBLE MOSAIC COMPANY,

Mosaic Parquet and Inlaid Floor.

Nos. 412-414-416 EAST 23d STREET,
NEW YORK.

Traitel Bros. 499 Fifth av (see add p. 82)

MOSAICS, MARBLE AND STONE, ARTISTIC.

Aeschlimann & Pellarin, 231 E. 28th

AESCHLIMANN & PELLARIN,
ROMAN & VENETIAN
DECORATIVE

MARBLE MOSAIC.

No. 231 EAST 28th STREET,
NEW YORK.

Batterson, See & Eisele, 431 Eleventh av
Conover, J. S. & Co. 28-30 W. 23d (see add p. 85)

Davidson Sons' Marble Co. 27th & Eleventh
av (see add p. 123)

Gibson's, Wm. Sons, 142 E. 33d
Lamb, J. & R. 59 Carmine
Theis & Janssen, 413-415 E. 25th (see add p. 127)

The Italian Marble Mosaic Co. 412 E. 23d

THE ITALIAN MARBLE MOSAIC COMPANY,

Mosaics, Marble and Stone, Artistic.

Nos. 412-414-416 EAST 23d STREET,
NEW YORK.

Traitel Bros. 499 Fifth av (see add p. 82)

MOTORS AND DYNAMOS, ELECTRIC.

Acme Electric & Illuminating Co. 106 Liberty
Brush Electric Co. 36 Union sq.
Bunnell, J. H. & Co. 76 Cortlandt
Clark Electric Co. 192 Broadway
C. & C. Electric Motor Co. 402 Greenwich
Cleveland Electric Motor Co. 115 Broadway
Continental Dynamo Co. 63 Broadway
Crocker-Wheeler Perfected Motors, 430 W.
14th (see add opp. 327)
Daft Electric Light Co. The, 115 Broadway
Easton Electric Co. The, 45 Broadway
Edison Gen'l Electric Co. 16 Broad
Electric Construction Co. cor. Washington and
York
Eureka Electric Co. 18 Broadway
Excelsior Electric Co. 115 Broadway
Fort Wayne Electric Co. 115 Broadway
Greeley, Theo. F. S. & Co. 5-7 Dey
Lancaster, Jas. H. & Co. 202 Broadway
New American Electrical Arc Light Co. 175
Broadway
N. Y. Electrical Mfg. Co. 10 W. 23d
N. Y. Electric Construction Co. 5 Broadway
N. Y. Railway Supply Co. (Ltd.) 40 Wall
Pugh & Russell, 41 Wall
Richter Electric Light Co. The, 41 Wall
Safety Electric Construction Co. 41 Wall
Sawyer-Mann Electric Co. 510 W. 23d
Thomson-Houston Electric Co. 115 Broadway
Westrom Northern Electric Co. 15 Cortlandt
Wing, L. J. & Co. 126 Liberty

MOULDERS' BELLOWS.

Estey, W. S. 65 Fulton (see add p. 24)

MOULDERS' RIDDLES.

Estey, W. S. 65 Fulton (see add p. 24)

MOULDING CUTTER MFRS.

Koberlein, F. 508 W. 24th (see add p. 53)

MOULDINGS.

Allen & Stevens, 638 W. 48th
Becker & Co. 330 W. 36th
Brown, G. & C. 377 W. 12th & 120 Jane
Cole, Cyrus & Co. 256 W. 28th
Collins, D. P. Son, 38 Bethune
Davis, J. P. 70th and Av. A

J. P. DAVIS,
MOULDING MILL,
70th STREET and AVENUE A,
NEW YORK.

Oak, Ash and Walnut Ceiling and Flooring Worked
to Order.

Drescher & Schlessinger, 7 Barelay
Dunn, W. S. & Co. 46 Murray
Ehrhard & Hagan, 247 W. 28th
Fischer, Schroeter & Co. 105 W. 42d
Gramm & Rudolph Mfg. Co. 3 Marion
Hall & Garrison, 32 Warren
Hawes, Joseph H. 1601 West Farms
Humbert & Wick, 151 Eleventh av
Keogh, G. B. Mfg. Co. 8 Howard
Kertscher & Co. 528-532 W. 24th
Kuaner, Caspar, 102 Centre
Langwasser, H. P. & Bros. 214 W. Houston
Lather, Conrad, 34 S. Fifth av
Libman, Meyer, 184 Bowery
Mornbach, John, 112 Stanton
Nott, Francis A. 377 West
Parker, E. C. 157 Eleventh av

EDWIN C. PARKER,

MANUFACTURER OF

Natural Wood Embossed Ornaments

157 ELEVENTH AVE., near 22d St., N. Y.

Duplicates of Hand Carving. Embossed Mouldings, Borders, Corner Blocks, Panels and Rosettes. Papyrus Ceiling Centres. Send for New Catalogue, 1892.

See Advertisement, page 100.

Purdy, E. H. Mfg. Co. (Ltd.) 43 W. 13th
Pyrogravure Wood Co. 230 E. 37th (see add pp. 96, 97)
Ransom, C. S. & Co. 10 West 28th (see add opposite Fourth Ward)
Renter, Wm. 11 Barclay
Ruhland, Henry, r 81 Chrystie
Russell & Burgess, 653 Second av
Schneider & Fuehs, 116 Chambers
Sentenne, Edmund H. 132 Nassau
Serrell, A. T. & Son, Eleventh av and 58th
Smith, H. C. Co. The, 62 Tenth av (see add p. 142)
Stout, James N. 74 W. 23d
Strehan, Albert, 131 W. 31st
Terrell & Vroom, 368 Eighth av
The Morgan Furniture Co. 1180 Broadway, represented by Norbert R. Ward
Tufts, L. C. & Co. 119 Elm and 84 Walker
White, Potter & Paige, 18 E. 17th
Wilson, James G. 74 W. 23d (see add pp. 82, 88)
Wright Lumber Co. (Ltd.) 136-144 W. 38th
Youngs, Wm. P. & Bros. 432 E. 10th
Zimmermann & Steiber, 9 Baxter
Zubrinsky, Joseph, 174 Centre

NATURAL WOOD ORNAMENTS.

Auffermann & Co. 211 E. 42d
Fischer, Schroeter & Co. 105 W. 42d
Gray, Jenks & Co. Lincoln bldg. 1-3 Union sq.
Henry C. Adams, manager, (see add p. 83)
Hall & Garrison, 32 Warren
Kertscher & Co. 528-532 W. 24th
Little, Chas. E. 59 Fulton (see add p. 101)
Mertz, George, Sons, Portchester, N. Y. (see add pp. 98, 99)
Parker, E. C. 157 Eleventh av

EDWIN C. PARKER,

MANUFACTURER OF

Natural Wood Embossed Ornaments

157 ELEVENTH AVE., near 22d St., N. Y.

Duplicates of Hand Carving. Embossed Mouldings, Borders, Corner Blocks, Panels and Rosettes. Papyrus Ceiling Centres. Send for Catalogue, 1892.

See Advertisement, page 100.

Pyrogravure Wood Co. 230 E. 37th (see add pp. 96, 97)
Ransom, C. S. & Co. 10 W. 28th (see add opposite Fourth Ward)
Schastey, Geo. A. & Co. 1681 Broadway, cor. 53d
Stout, James N. 74 W. 23d
The Morgan Furniture Co. 1180 Broadway, represented by Norbert R. Ward

NAIL MAKERS.

Albert Nail Co. 79 Duane and 300 Monroe
American Tack Co. (wire), 116 Chambers
Atlas Tack Corporation, 116 Chambers
Ausable Horse Nail Co. (horse), 4 Warren
Bleecker, A. & Son, 78 Front
Bleecker, Jas. jr. 149 Broadway
Borden & Lovell (mfrs. agents for cut nails), 70 and 71 West
Butler Hardware Co. 18 Warren
Capewell Horse Nail Co. The (horse shoe), 173 E. 79th
Chess, Cook & Co. 105 Chambers
Double Pointed Tack Co. 108 Chambers
Dumbar, Hobart & Co. (small), 39 Warren
Empire State Nail Co. (antique and brass), 227 Canal
Essex Horse Nail Co. limited (horse), 97 Chambers
Field, A. & Sons, 88 Chambers
Fuller Bros. & Co. 139 Greenwich
Gessler, Dudley D. 63 Park row
Haines, S. A. Co. 90 Chambers
Hassall, J. 63 Elizabeth
Hazen Co. 83 Fulton
Johnson, Thos. V. r 43 Centre
Kaufmann, Isaiah, 12 First
Livingston Nail Co. (jobbers), 104 Reade
Losce, Lewis H. 18 Broadway
Mackie-Lovejoy Mfg. Co. (upholsterers), 2 and 4 Howard
Merry, John & Co. (slate and roofing), 535 to 547 W. 15th (see add p. 64)
Miller & Brewer, 83 Maiden la
Milliken Bros. 55 Liberty
National Horse Nail Co. 97 Chambers
Nelson, O. 295 Pearl
New Jersey Steel and Iron Co. 17 Burling sl
N. Y. Wire Nail Co. 12 First
Old Colony Iron Co. 211 Pearl
Oliver & Roberts Wire Co. Fuller Bros. & Co. agents (wire nails), 139 Greenwich
Oxford Iron & Nail Co. 81, 83 and 85 Washington
Plume & Atwood Mfg. Co. (shoe), 18 Murray
Pottstown Iron Co. 250 Broadway
Quincy, John W. & Co. (mfrs. agents), 98 William
Renlecke, F. 361 E. 3d
Revere Copper Co. (copper) 242 South

Russell & Erwin Mfg. Co. (wire), 43, 45 and 47 Chambers
 Salem Nail Co. 295 Pearl
 Salem Wire Nail Co. 54 Warren
 Scranton, Jas. S. 83 Washington
 Seed, Chas. J. r 43 Centre
 Shelton Co. (small steel and iron), 298 Broadway
 Standard Leather Nail Co. (leather heads), 41 and 43 Centre
 Stanley Works (small steel and iron), 79 Chambers
 Starke, Adolph (hand made), 441 E. 10th
 Stebbins, Chas. J. (mfrs. agts.), 103 Reade
 Steele & Johnson Mfg. Co. (upholsterers), 35 Howard
 Street, William C. 62 Reade
 Taunton Copper Mfg. Co. (yellow Metal) 232 South
 Thompson, R. 35 Warren
 Tiebout, W. & J. (galvanized), 16-18 Chambers
 Viele, Kenyon G. 90-93 Washington
 Wallace, W. H. & Co. (mfrs. agts.) 131 Washington
 Wallace & Sons (copper), 29 Chambers
 Waterman, L. C. & Sons, 118 Chambers
 Wheeling Iron & Nail Co. 83 Fulton
 Whitney, A. R. & Co. 17 Broadway
 Williamsport Iron and Nail Co. (cut), 90 Washington

NEEDLE AND SHOWER BATHS, PLUMBERS' SUPPLIES.

Adee, Fred. & Co. 90 Beekman (see add p. 109)
 Blessing, Geo. A. & Co. 290 Pearl (see add p. 110)
 Huber, Henry Co. 81 Beekman (see add p. 110)
 McShane, Henry, Mfg. Co. 625-627 Sixth av (see add p. 108)
 Mayer, Lane & Co. 119 Walker
 Meyer, Sniffin Co. Ltd. 48 Cliff
 Moore, Frederick G. 78 Beekman
 Mott, J. L. Iron Works, 88 Beekman
 Sanitas Mfg. Co. 54 Gold
 Smith, Benjamin C. 52 Cliff
 Steeger, Henry, 143 E. 31st (see add p. 112)

NICKEL PLATERS.

Aiken, William A. 142 Eighth
 American Tin Co. 424 Broadway
 Anderton, Ralph L. 210 Grand
 Becker & Bliem, 175 Grand
 Bernard, John. 47 Washington sq
 Biemann & Evertz, 146 Baxter
 Billings Nickel Plate Works, 86 Fulton
 Buchanan, Chas. H. 51 Ann
 Buseh, Henry, 500 Grand
 Carr, M. W. & Co. 419 Broadway
 Central Plating Co. 37 W. 14th
 Coffin & Billings, 53 Ann
 Collins & Nuttall, 418-420 W. 27th
 Consolidated Safety Pin Co. 353 Broadway

Cook & Totten, 20 Jacob
 Cooms, R. T. & Bro. 58 John
 Dalton & Boyd, r 59 Ann
 Davenport, Treacy & Co. The, 745 E. 11th
 Dempsey & Cherry, 47 Ann
 Eidner, Herman, 143 Elm
 Garvey, Thomas, 219 Centre
 Goodman, B. Mfg. Co. 353 Canal
 Haas, Henry & Son, 492 E. 30th
 Hale & Barber, 207 Centre
 Herder, Otto, 51 Ann
 Hirsch, Isaac E. 265 Canal
 Holmes, E. 88 John
 Johnson, Chas. A. 20 Beach
 Johnson & Sullivan, 97 Boulevard and 155 E. 128th
 Kaiser, L. 14 Howard
 Knight, George D. & Co. 208 E. 23d
 Koelble, Peter, 141 Elm
 Krouse, Louis, 213 Centre
 McCue & Dalton, r 59 Ann
 Mack Bros. 43 Park pl
 Menahan, E. J. 114 Centre
 Mercil, John, 127 Greenwich
 Moore, B. F. & Son, 71 Nassau
 Nash, A. H. 209 Centre
 N. Y. Nickel Plating Mfg. Co. 227 and 225 W. 29th
 Newman, Louis, jr. 36 John
 Normandeau, P. Adolph, 50 Ann
 Norwich Nickel and Brass Works, 8 Astor pl
 Osborne & Cheesman Co. 39 Barclay
 Peck, Stow & Wilcox Co. 27 Chambers
 Poeter, Julius, 38 Gold
 Richards, H. M. & Co. 401 Broadway
 Richmond Nickel Plating Co. 53 Ann
 Sargent & Co. 37 Chambers
 Schaaf & Hack, 43 Park
 Schimper, William & Co. 585 to 589 Hudson
 Scoville Mfg. Co. 423 Broome
 Skinnell, Daniel A. 151 W. 29th
 Smith & Egge Mfg. Co. The, 62 Reade, J. J. Halpin, agent
 Tillman & Hanagan, 91 Elizabeth
 Wallace & Sons, 29 Chambers
 Week & Sivering, 209 Centre
 Wenzel A. C. 43 Centre
 Whateley, George B. 139 Lewis
 Wilcox, Crittenden & Co. 33 South
 Wolfertz, F. H. 248 First av

NURSERY FENDERS.

Estey, W. S. 65 Fulton (see add p. 24)

NURSERY RIDDLES.

Estey, W. S. 65 Fulton (see add p. 24)

OFFICE AND BANK RAIL- INGS, FITTINGS AND FIXTURES.

Bataille, Achille, 122 W. Broadway (see add p. 23)

Oil Cabinets and Tanks.—Oil Tank Manufacturers.—Old Buildings and Structures Bought and Removed.

Brunswick Balke-Collender Co. 860 Broadway c 17th, Union sq
 Carrere & Haas Iron Works, Lincoln bldg. 1-3 Union sq c 14th
 Central Wire Works, 30 Church
 Christie, Robert, 148-150 W. 29th
 Cohen, Louis, 403 and 421 Ninth av
 Cornell, J. B. & J. M. 141 Centre, W. 26th, 10th and 11th avs (see add pp. 35, 37, 39)
 DeWitt Wire Cloth Co. 32 Reade (see add p. 26)
 Empire Metal Working Co. 76 Fifth av
 Estey, W. S. 65 Fulton (see add p. 24)
 Fisher, William C. 125 W. 31st
 Fiske, J. W. 26 Park pl. and 21 Barclay
 Gray, Jenks & Co. Lincoln bldg, 3 Union sq (see add p. 93)
 Gridley, Edward, 240 W. 27th
 Hall & Garrison, 32 Warren
 Hecla Iron Works, Poulson & Eger, World bldg, show rooms 48-51 (see add p. 28)
 Hepburn, David, 547 Broome
 Hopkins, & Co. 90 W. Broadway
 Horrocks, J. 59 Fulton
 Howard & Morse, 45 Fulton (see add p. 5)
 Kertscher & Co. 528 to 532 W. 24th
 Leeper, David, 52 Wooster
 Luetke, Oscar, 662-668 Hudson (see add opposite Ninth Ward)
 Lyon, W. E. 202 E. 46th (see add p. 46)
 McGuire & Leeper, 151 W. 28th
 Marrens', Jos. & Sons, 157 E. 44th
 Mitchell, D. 155 E. 44th
 Muhl, J. & Son, 329 E. 33d (see add p. 50)
 National Mfg. Co. 24 Cliff
 New York Steam Wire Works, 90 W. Broadway
 Pitt, William R. Composite Iron Works, The, 83 Reade
 Prince & Kinkel Iron Works, 729 731 First av (see add p. 51)
 Pyrogravure Wood Co. 230 E. 37th (see add pp. 96, 97)
 Schaettler, F. 245 and 247 W. 28th
 Schastey, George A. & Co. Broadway and 53d
 Sherwood, W. M. 36 Lexington av
 Smith, B. & W. B. 220 W. 29th
 Smith, Edward, r 47 Ann, 116 W. 39th
 Smith, Haviiah M. & Son, 99 Variek & 36 Watts
 Tufts, John M. Fulton and Nassau
 Westervelt, A. B. & W. T. 102 Chambers (see add p. 203)
 Wooley & Co. 61 Fulton

OIL AND ARTESIAN WELL SUPPLIES.

Artesian & Oil Well Supply Co. 80 Beaver, and 127 Pearl (see add p. 212)
 Artesian Well Torpedo Co. Elisha Gregory, 109 Liberty
 Blake, Geo. F. Mfg. Co. 97 Liberty
 Cameron Steam Pump Co. 433 E. 23d
 Coreoran, Andrew J. 76 John
 Davidson, M. T. 77 Liberty (see add opp. p. 327)
 Eaton, Cole & Burnham, 82 Fulton
 Knowles Steam Pump Works, 95 Liberty

Oil Well Supply Co. Ltd. 32 Cortlandt
 Pancoast & Rogers, 28 Platt
 Pierce Artesian & Oil Well Supply Co. 8 Beaver (see add p. 212)

OIL CABINETS AND TANKS.

Federroll, R. 267 W. 35th
 Lefferts, Marshall & Co. 100 Beekman
 Roberts, Geo. I. & Bros. 471-473 Fourth av (see add pp. 62, 63)
 The New York Oil Cabinet Co. 180-186 Cherry rear

OIL TANK MFRS.

Adams & Westlake Mfg. Co. 115 Broadway
 Collins Iron Works, Wm. Collins & Son, props. ft. W. 21st
 Empire Hardware Co. 141 Duane
 Federroll, R. (grocers') 265 W. 35th
 Fox, George & Son, 509 W. 34th
 Garrison, W. C. Mfg. Co. 75 Warren
 Hepe, Koven & Co. 18 Spruce
 Lefferts, Marshall & Co. 100 Beekman
 New York Oil Cabinet Co. 180-186 Cherry
 Perfection Oil Tank Co. 130-132 Maiden la
 Reilley Bros. 416 W. 42d
 Schneider, Bennett B. 37 Park pl

OLD BUILDINGS AND STRUCTURES BOUGHT AND REMOVED.

Reebers, J. Sons, 409-431 E. 107th
 Tripler, Thos. E. Av. B, 17th and 18th

ONYX, MARBLE.

Batterson, See & Eisele, 431 Eleventh av
 Davidson Sons' Marble Co. Eleventh av and 27th (see add p. 123)
 Fisher, Robert C. & Co. 97-103 E. Honston
 Klaber, A. 238 E. 57th
 Mexican Onyx and Trading Co. 1 Broadway

MEXICAN ONYX & TRADING CO. INCORPORATED.

ROBERT C. SEYD, Prest.,
Washington Building, 1 Broadway, N. Y.

Owners of all the Quarries on the Hacienda del Carmen, State of Puebla, Republic of Mexico.

The Mexican Onyx Quarry Co. 44 Wall
 Theis & Janssen, 413-415 E. 25th (see add p. 127)

ORNAMENTAL FLOOR AND WALL TILES.

Aeschlimann & Pellarin, 231 E. 28th
 American Encaustic Tile Co. 138-140 W. 23d
 (see add p. 76)
 Batterson, See & Eisele, 431 Eleventh av
 Boote, Alfred, Broadway and 47th
 Conover, J. S. & Co. 28-30 W. 23d (see add p. 85)
 Dale Tile Mfg. Co. (Ltd.) 398 Broome (see add p. 49)
 Davis, Reid & Alexander, 18 E. 15th
 Eltrich Art Tile Co. 108 Beekman
 Gibson's, Wm. Sons, 142 E. 33d
 Herter Bros. 154 Fifth av, cor. 20th
 Howden & Fish, Chelsea Hotel bldg. 216-218 W. 23d (see add p. 77)
 Jackson, W. H. & Co. 27 E. 17th (see add p. 84)
 Jackson's, W. Sons, 268 Water
 Kirtland, Andrews & Co. (Ltd.) 46-48 Union sq. cor. 17th (see add p. 83)
 Klaber, A. 238 E. 57th
 Menlo Park Ceramic Works, Jere T. Smith, prop., Metropolitan Life Insurance bldg. cor. Madison av and 23d (see add p. 131)
 Mersereau, W. T. & Co. 39 Union sq
 Miller & Coates, 279 Pearl
 Mosaic Tile Co. 140 Nassau
 Person, Orrin D. Mohawk bldg. 160 Fifth av cor. 21st (see add p. 139)
 Smith, Jere T. 23d and Madison av (see add p. 131)
 The New York Vitriified Tile Co. Office and Works, 79-87 Fourth. Brooklyn; N. Y. Office 10-12 Reade (see add p. 77)
 Traitel Bros. 499 Fifth av (see add p. 82)

ORNAMENTAL IRON GOODS.

Architectural Wrought Iron Works, 433 Canal and 48 Watts
 Bayer & Scherbner, 449-455 W. 41st
 Bradley & Hubbard Mfg. Co. 21 Barclay and 26 Park pl
 Cameron Iron Works, 182 Sixth av
 Carrere & Haas Iron Works, Lincoln bldg. 1-3 Union sq. cor. 14th
 Central Iron Works, 203 E. 30th (see add p. 44)
 Cheney & Preyer, 21 Park row (see add opposite Fifth Ward)
 Clausen & Hoffmeyer, 533 E. 15th
 Cornell, J. B. & J. M. 141 Centre and W. 26th st, 10th and 11th avs (see add pp. 35, 37, 39)
 Dudley, Wm. 142 W. 10th
 Eckstein, Chas. G. & Co. 32 Liberty
 Einbigger & Adler, 244 W. 22d
 Fiske, J. W. 39 Park pl
 Hainsley Metal Roofing Co. 18 Cliff
 Hecla Architectural Bronze and Iron Works, Poulson & Eger, props., Pulitzer bldg. show rooms 48-51 (see add p. 28)
 Jackson Arch. Iron Works, 315 E. 28th (see add p. 31)
 Koehn, Alfred 106-108 Seventh av

Luberman, Schulz & Benasaraf, 315 E. 22d
 Luetke, Oscar (wrought iron) 662 and 668 Hudson (see add p. opp. Ninth Ward)
 Mott, J. L. Iron Works, 88-90 Beekman
 Peck, Stow & Wilcox Co. 27 Chambers
 Pitt, Wm. R. Composite Iron Works, 83 Reade
 Skillman, H. S. (wrought iron) 237 Broadway
 Weber, C. W. B. 17-19 William
 Westervelt, A. B. & W. T. 102 Chambers (see add p. 203)
 Williams, John, 544-556 W. 27th (see add p. 36)

ORNAMENTAL LAWN FIGURES AND VASES.

Bent, Sam'l S. & Son, 111 Chambers
 Colman, Chas. H. & Co. 145 Broadway (see add pp. 136, 137)
 Fiske, J. W. 39 Park pl
 Menlo Park Ceramic Works, Jere T. Smith, prop. Metropolitan Life Insurance bldg. cor. 23d and Madison av (see add p. 131)
 Mott, J. L. Iron Works, 88 Beekman
 Westervelt, A. B. & W. T. 102 Chambers (see add p. 203)

ORNAMENTAL MARBLE, MOSAICS.

Aeschlimann & Pellarin, 231 E. 28th
 Batterson, See & Eisele, 431 Eleventh av
 Conover, J. S. & Co. 28-30 W. 23d (see add p. 85)
 Davidson Sons' Marble Co. 27th and Eleventh av (see add p. 123)
 Fisher, Robert C. & Co. 97-103 E. Houston
 Gibson's, Wm. Sons, 142 E. 33d
 Herter Bros. 20th and Fifth av
 Lamb, J. & R. 59 Carmine
 Theis & Janssen, 413-415 E. 25th (see add p. 127)
 The Italian Marble Mosaic Co. 412 E. 23d
 Traitel Bros. 499 Fifth av (see add p. 82)

ORNAMENTAL STABLE FITTINGS.

Bent, Samuel S. & Son, 111 Chambers
 Estey, W. S. 65 Fulton (see add p. 24)
 Fiske, J. W. 39 Park pl
 Howard & Morse, 45 Fulton (see add p. 5)
 Jackson Arch. Iron Works, 315 E. 28th (see add p. 31)
 Mott, J. L. Iron Works, 88 Beekman
 Stuetzer, H. & Co. 474-494 Leonard, 49-61 Van Pelt av, Brooklyn; 39 Dey, N. Y. city (see add p. 40)
 Westervelt, A. B. & W. T. 102 Chambers (see add p. 203)

Ornaments, Iron, Architectural.—Ornaments, Marble, from Original Designs —Ornaments,
Wire Work.—Ornaments, Sheet Metal.

ORNAMENTS, BRASS AND BRONZE, ARTISTIC MODELS.

Bonnard, Henry, Bronze Co. 430-436 W. 16th
Hecla Architectural Bronze and Iron Works,
Poulson & Eger, Pulitzer bldg. show rooms
48-51 (see add p. 28)
Powers, Maurice J. Office, 237 Broadway ;
Foundry, 218 E. 25th
Prince & Kinkel Iron Works, 729-731 First av
(see add p. 51)
Richey, Brown & Donald, 218-224 N. Eleventh,
20-22 Roebling, Brooklyn (see add p. 47)
Westervelt, A. B. & W. T. 102 Chambers (see
add p. 203)
Williams, John, 544-556 W. 27th (see add p. 36)

ORNAMENTS, IRON, AR- CHITECTURAL.

Carrere & Haas Iron Works, Lincoln bldg. 1-3
Union sq. cor. 14th
Cheney & Preyer, 21 Park row (see add oppo-
site Fifth Ward)
Empire Metal Working Co. 76 Fifth av
Fiske, J. W. 39 Park pl
Hecla Architectural Iron Works, Poulson &
Eger, Pulitzer bldg. show rooms 48-51 (see
add p. 28)
Jackson Architectural Iron Works, 315 E. 28th
(see add p. 31)
Luetke, Oscar, 662-668 Hudson (see add opp.
Ninth Ward)
Lyon, W. E. 202 E. 46th (see add p. 46)
Marren's, Jos. Sons, 157 E. 44th
Muhl, J. & Son, 329 E. 33d (see add p. 50)
Mullins, Wm. H., Julius T. Wagner, manager,
108 Chambers
Phoenix Iron Co., Wm. H. Gulick, contracting
agent, 10 W. 23d
Prince & Kinkel Iron Works, 729-731 First av
(see add p. 51)
Richey, Brown & Donald, 218-224 N. Eleventh,
20-22 Roebling, Brooklyn (see add p. 47)
Schwoerer, J. 8 E. 2d
Stuetzer, H. & Co. 474-494 Leonard, 49-61 Van
Pelt av, Brooklyn ; 39 Dey, N. Y. city (see
add p. 40)
The William R. Pitt Composite Iron Works,
83 Reade
Traitle Bros. 499 Fifth av (see add p. 82)
Westervelt, A. B. & W. T. 102 Chambers (see
add p. 203)
Williams, John, 544-556 W. 27th (see add p. 36)

ORNAMENTS, MARBLE, FROM ORIGINAL DESIGNS.

Batterson, See & Eisele, 431 Eleventh av
Davidson Sons' Marble Co. 27th & Eleventh av
(see add p. 123)
Ellin, Kittson & Co. ft. W. 25th
Fisher, Robert C. & Co. 97-103 E. Houston

Klaber, A. 238 E. 57th
Laub, J. & R. 59 Carmine
Sinclair, James & Co. ft. E. 29th
Theis & Janssen, 413-415 E. 25th (see add p.
127)

ORNAMENTS, WIRE WORK.

Bataille, Achille, 122 W. Broadway (see add p.
23)
Carrere & Haas, Lincoln bldg. 1-3 Union sq. c.
14th
DeWitt Wire Cloth Co. 32 Reade (see add p.
26)
Estey, W. S. 65 Fulton (see add p. 24)
Howard & Morse, 45 Fulton (see add p. 5)
McMurray, R. T. & Bro. 141-143 Centre (see
add p. 25)
The William R. Pitt Composite Iron Works,
83 Reade

ORNAMENTS, SHEET METAL.

Briggs, A. A. 124 E. 129th
Empire Metal Working Co. 76 Fifth av
Farrell, M. J. & Co. 104 E. 13th
Hecht, M. & Bro. 529 Broadway
Hirt & Hagerdorn, 279 Av. B
Hopfensack, Ernest, 34 S. Fifth av
Kayser, Louis M. 90 Walker
Lane Mfg. Co. 350 Canal
Ludwig, Adolph, 33 John
Lyles & Mills, 231 William
McCullum, John & Co. 426 Washington
Manhattan Brass Co. 338 E. 28th
Messer, Louis & Co. 174 Worth
Mullins, R. M. r 158 Wooster
Mullins, W. H., Julius T. Wagner, manager,
108 Chambers
New York Metal Ceiling Co. 11th av c 15th
Northrop, Henry S. 30 Rose (see add opposite
Fourth Ward)
Osborn, Geo. R. 335 Broadway
Plant Bros. 455 Greenwich
Prince & Kinkel Iron Works, 729-731 First av
(see add p. 51)
Saldini, Peter, 225 Thompson
Schmidt, Julius C. 527 Pearl
Schmidt, Phillip, 511 Pearl
Schwoerer, J. 8 E. 2d (see add p. 142)
Universal Fastening Co. 241 Centre
Vanderbilt, Isaac T. 96 Spring
Wagner, J. T. 108 Chambers
Williams, John, 544-556 W. 27th (see add p.
36)
Winzer & Rothenstein, 338 Broadway

ORNAMENTS, WOOD, NAT- URAL AND ARTISTIC.

Aufferman & Co. 211 E. 42d
Bradley & Currier Co. (Ltd.) 308 Hudson
Fischer, Schroeter & Co. 105 W. 42d

Gray, Jenks & Co. Lincoln bldg., Henry C. Adams, manager, 1-3 Union sq. cor. 14th (see add p. 93)
 Hall & Garrison, 32 Warren
 Kertscher & Co. 528-532 W. 24th
 Little, Chas. E. 59 Fulton (see add p. 101)
 Mertz, George, Son's, Portchester, N. Y. (see add pp. 98, 99)
 Parker, Edwin C. 157 Eleventh av (see add p. 100)
 Pyrogravure Wood Co. 230 E. 37th (see add pp. 96, 97)
 Ransom, C. S. & Co. 10 W. 28th (see add opp. Fourth Ward)
 Schastey, Geo. A. & Co. 1681 Broadway, c. 53d
 Stout, James N. 74 W. 23d

PACKING.

Behringer & McCoy, 44 Dey
 Garlock Packing Co. 194 Water
 Greene, Tweed & Co. 83 Chambers

GREENE, TWEED & CO.,

Sole Manufacturers,

MANHATTAN PACKING,

The Most Durable and Best Packing for Marine and Stationary Engines, Locomotives, Pumps, Valves, Steam Hammers, &c.

83 CHAMBERS STREET.

See Advertisement, page 53.

Hine & Robertson, 45 Cortlandt
 Jenkins Brothers, 71 John
 New York Belting & Packing Co. 15 Park row (see add p. front inside cover)
 Reddaway, F. & Co. 52 New
 Revere Rubber Co. 62 Reade
 Roberts, Geo. I. & Bro. 471-473 Fourth av (see add pp. 62, 63)
 Selden's Patent Packings, Randolph Brandt, Mgr. 38 Cortlandt

PAINT, FIRE PROOF.

Gum Elastic Roofing Co., 41 W. Broadway (see add p. 75)
 Martin Process Fire Proofing Paint Co. The, 162-164 W. 27th
 Swartz, E. H. 23 Ave. A (see add p. 106)

PAINT MFRS.

Adler's, S. Sons, 197 Pearl
 Am. Aquol & Pyrodene Paint Co. 111 Broadway and 424 W. 15th
 Address Paint & Color Co. 15 Cortlandt
 Armstrong & McClintock, 229 Pearl
 Berry Brothers, 252 Pearl
 Billings, King & Co. 433 Pearl
 Bonton, Marsh Co. 118 Gansevoort
 Breidbach, C. J. & Son, Mott av c E. 144th
 Breinig, Granville M. 240 Pearl
 Bridgeport Wood Finishing Co. The, 240 Pearl
 Brown, Louis Mfg. Co. 181 Pearl
 Budd, John J. 149 Bank
 Cabot, Samuel, 70 Kilby st. Boston

Childs, Charles M. & Co. 252 Pearl
 Chilson Mfg. Co. 147 Fulton
 Clinton Metallic Paint Co. 95 Nassau
 Conklin, Henry, 75 Maiden la
 Coulston, J. W. & Co. 140 Maiden la
 Crockett, David B. Co. 84 William and 70 Maiden la
 Cyclone Wrought Iron Paint Co. 115 Broadway
 Davidson & Knowles Co. r 182 Cherry
 Devoe, F. W. & Co. 103 Fulton

F. W. DEVOE & CO.,

ARTISTS' MATERIALS,

103 FULTON STREET,

NEW YORK.

See Advertisement, page 90.

Dixon, Joseph Crucible Co. 68 Reade
 Doggett, Stanley & Bro. 83 Nassau
 Dorr Paint Co. 45 Broadway
 Dunbar, Wallace, 24 Liberty
 Dunham, Thomas C. 68 Murray
 Earle, Ellis P. 71 Maiden la
 Elbra Paint & Color Works, 11 Burling sl
 English Enamel Paint Co. 10 E. 15th
 Ferronite Mfg. Co. 181 Pearl
 Fields & Co. 233 Centre
 Fox, M. Erwing, 708 E. 167th
 Griffin Enamel Paint Co. 10 E. 15th
 Guarantee Mfg. Co. 239 Broadway
 Gum Elastic Roofing Co. 41 W. Broadway (see add p. 75)
 Hampden Paint & Chemical Co. 274 Pearl
 Hammell, A. & Co. 49 Second
 Harrison Brothers & Co. 117 Fulton
 Hochstalter, C. W. 533 E. 119th
 Howell, Chas. H. & Co. 79 Maiden la
 Isley, Doubleday & Co. 229 Front and 2146 Third av
 Jacobs & McCafferty, Bedford av. and N. 15th st. Brooklyn

J. Samuel Jacobs.

James A. McCafferty

JACOBS & McCAFFERTY,

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White Lead, Zinc & Fine Colors,

Dry and in Oil. Gold Seal White Lead.

OFFICE AND WORKS,

Bedford Ave. & N. 15th St., Brooklyn, N. Y.

Jennings, Astley C. 90 Nassau
 Johns, H. W. Mfg. Co. 87 Maiden la
 Kellogg Oil Paint & Varnish Co. 102 Barclay
 Langtry Gold Paint Co. 59 Murray
 Lauer, Peter, 163 Prince
 L. I. Paint & Color Works, 26 Broadway
 Longman & Martinez, 207 Pearl
 Lucas, John & Co. 89 Maiden la
 Lucas, William E. 89 Maiden la
 McDonagh, William & Co. 180 Front
 McSherry, Philip, r 475 Cherry
 Marine Germicide Paint Co. 132 Nassau
 Martin Process Fire Proofing Paint Co. The, 162-164 W. 27th
 Maynz & Co. 36 Beaver
 Moser, Charles & Co. 75 Maiden la
 N. Y. Chemical Mfg. Co. 21 Clinton pl
 N. Y. Enamel Paint Co. 240 Pearl

N. Y. Iron Roofing & Corrugating Co. 29 Broadway (see add p. 51)
 N. Y. Insulating Paint Co. 53 South
 Pierce, F. O. & Co. 170 Fulton
 Pomeroy & Fischer, 30 Frankfort
 Prince Mfg. Co. 71 Maiden la
 Prince's Metallic Paint Co. 71 Maiden la
 Rathjens Am. Composition Co. 26 Beaver
 Rich, Aquila, Paint & Color Co. 84 William, 70
 Maiden la and 9 Liberty
 Rubber Paint Co. 90 Nassau
 Rutherford & Barclay, 77 Maiden la
 Schwartz, E. H. 23 Ave. A (see add p. 106)
 Seeley Brothers, 32 Burling sl
 Sherwin-Williams Co. 178 Fulton
 Smith, J. Lee & Co. 59 Frankfort and 21 Jacob
 Somers, John E. The, Paint Co. 305 Pearl
 Standard Paint Co. The, 2 Liberty
 Stewart, William H. 182 Front
 Sturges, Westcott & Hanold Co. 192 West
 Tiemann, D. F. & Co. 44 W. Broadway, 129th c
 Twelfth av
 V. & A. Cold Water Paint Co. 132 Nassau
 Van Orden, Edward & Co. 110 John
 Van Vleck & Adams, 529 West
 Vulcan Fire Proof Paint Co. The, 84 William
 Weddle, William B. 19th and Broadway
 Wetherill, S. P. Co. Ltd. 45 Cedar
 Williams, Samuel, 181 South
 Wrought Iron Paint Co. 15 State

PAINTS AND OIL, RETAIL.

Ackerman, Henry L. 48 Ave. C
 Allen & Tufts, 212 Eighth av
 Anderton, Robt. J. 107 Fourth av
 Attwood, Edward C. 435 Sixth av
 Auerbach, C. Q. 856 Ninth av
 Auerbach, Mendel, 802 Ninth av
 Ayres, & Son, 424 Broome
 Back, Jacob, 98 Av. B
 Bade, Henry A. 126 Canal
 Baxter, Thomas, 1814 Park av
 Bentz, John, 2333 Second av
 Berlinger, Jacob, 231 First av
 Bernardik, Jacob, 1172 Second av
 Bliss, Andrew R. 24 Ave. D
 Blumberg, Aaron, 105 Greenwich
 Boelsen, H. F. 1705 Third av
 Bogatzky, Cecilia, 1852 Second av
 Bohulen & Gutherl, 243 Third av
 Bosworth, Daniel P. 173 E. 84th
 Bressler, Jacob, 867 First av
 Brown, Chris. 840 First av
 Brown, Patrick, 231 Third av
 Burkhardt, Fred. V. 283 Broome
 Cochrane, Peter J. 2245 Second av
 Cohen & Lewis, 29 Carmine
 Corcoran, John, 141 E. 42d
 Corridon & Meyer, 89 Fourth av
 Datz, Elizabeth, 1712 First av
 Davis & Barr, 190 Ninth av
 Deane, Michael, 100 E. 12th
 Delamater, William G. 1320 Third av
 Dittmar, August, 120 Broome
 Dodd, Samuel F. 448 Hudson
 Donald, Alexander, 519 Pearl
 Donnaruna, F. 303 E. 125th
 Eberling, William, 2365 Second av
 Eckstein, Jacob & Bro. 184 First av

Ehringer, H. M. 194 Bleecker
 Ehrlich, Heyman, 199 Delancy
 Ellerich, John, 530 Courtland av
 Eschwege, M. 121 Ave. C
 Esser, William, 2439 Eighth av
 Faber, Alex. 1887 Amsterdam av
 Fecher, Margurite, 554 Courtland av
 Femberg, Barnet, 72 Division
 Ficken Bros. 1134 Third av
 Fiencke, George, 3022 Third av
 Fischer & Deutsch, 315 E. Houston
 Fitze, Minnie, 1716 Third av
 Flach, M. 437 Hudson
 Forbrich, R. E. 929 Forrest av
 Foy, Thomas, 2620 Third av
 Frank, John P. 75 Ninth av
 Friedman & Roth, 129 First av
 Gallagher, Martin J. 1333 First av
 Gauntert, Paul & Son, 482 Third av
 Geiler, F. W. 2341 Eighth av
 Gerstle, R. H. & Bro. 288 Bowery
 Gerty, J. W. 1937 Third av
 Gibbons, J. F. 584 Eighth av
 Gilmartin, Hugh J. 20 New Bowery
 Glaser, Herman, 2409 Second av
 Glassheim & Spiegel, 443 Seventh av
 Grayson, William C. 46 Centre
 Green, Samuel, 90 Delancy
 Greenberg, Abraham, 1413 Second av
 Grodginsky, Samuel, 1466 First av
 Guhl, Hugo, 1557 Ave. A
 Habel & Wolff, 1000 Second av
 Hahn, Henry, 1385 Third av
 Harscher, Alex. 150 Ave. C
 Hartmayer, John, 2470 Third av
 Hauptman, W. L. 1313 Washington av
 Heartfield, Chas. H. 378 Canal
 Heins, John J. 368 Broome
 Henschel, T. 121 Hester
 Herskowitz, Herman, 723 Third av
 Hoffman, Chas. 645 E. 11th
 Hoffman, Isaac, 55 Allen
 Hoyer, Thomas G. 936 Third av
 Hull, S. G. & Son, 191 Maiden la
 Igstaedter, Yette, 2215 Second av
 Ilsey, Doubleday & Co. 229 Front and 2146
 Third av
 Jackle, M. 249 E. 45th
 Jarboe, J. W. & Son, 519 E. 19th
 Jones & McDonald, 708 Eleventh av
 Kahn, Amelia, 553 Second av
 Kelly, Lawrence, 458 W. 42d
 Klein, Samuel, 339 E. 47th
 Koln, Leopold, 494 Tenth av
 Kosch, Philip, 301 E. Houston
 Lang, Simond, 2067 Second av
 Laugham, Chas. C. 134 Ninth av
 Lawlor, Jas. 180 Ninth av
 Lendorf, Leopold, 766 Third av
 Lent, William D. 390 Broome
 Levenson, Edward, 324 First av
 Levin, Adam, 1978 Second av
 Levinson, D. 587 First av
 Levy, Samuel, 961 First av
 Linich, John A. 1762 Second av
 Litowitch, M. 1991 Third av
 Little, John, 1196 Third av
 Loewenstein, Moses, 494 Tenth av
 Louis, Conrad, 371 First av
 Louis, Jacob, 399 First av
 Lowry, Max, 458 Seventh av
 Lowry, Samuel, 949 Columbus av

Lowry, Simon, 1891 Third av
 Lubelsky, David, 237 Ninth av
 Lugars, George C. Son, 435 E. Houston
 Lusignaw, P. & Co. 2064 Seventh av
 McClelland Henry G. 2291 Third av
 McKay, Peter, 1147 Second av
 Maeder, Frederick J. 2352 Second av
 Manwell, Adam, 444 Ninth av
 Merk, Frederick W. 588 Ninth av
 Metzner, Isodor, 1039 Second av
 Meyer, M. 1796 Third av
 Meyer, Otto, 1467 Second av
 Miller, Adam, 46 Sixth av
 Miller, Harris, 1890 Second av
 Miller, Louis, 1559 Third av
 Minkowsky, Bernard, 219 Broome
 Montross, N. E. 1380 Broadway
 Moore, W. K. 41 Christopher
 Muller, Martin, 1072 Second av
 Muller, M. & Son, 164 Essex
 Noll, Theobald, 723 Columbus av
 O'Brien, James, 417 Third av
 Rawitzer, Max, 397 First av
 Reich, Adolph, 762 Second av
 Reiss, Louis, 1540 Third av
 Rice, P. A. & Co. 419 West
 Rinsehede, Chas. J. 159 First av
 Roberts, Geo. I. & Bros. 471-473 Fourth av (see add pp. 62, 63)
 Rogers, Stephen, 261 West
 Ruffle, George, 818 Sixth av
 Sackman & Roek, 134 Attorney
 Sauvan, Frank O. 3191 Third av
 Schiller, Leopold, 881 Third av
 Schneider, Isaac, 1689 Park av
 Schritter, John, 76 Clinton
 Schwartz, A. L. 173 E. Houston
 Schwartz, E. H. 23 Ave. A (see add p. 106)
 Seelig, Nathan, 399 E. Houston
 Shaw, Truman A. 2689 Third av
 Smith, W. J. 823 Third av
 Spitenik & Goldstein, 2357 Third av
 Staudinger, Andrew, Boulevard and 85th
 Steindler & Hahn, 593 and 2067 Third av
 Steinman & Hoffman, 27 Orchard
 Steuhl, Jacob, 68 Greenwich av
 Stirn, Emma, 225 Av. B
 Suartz, Herman, 197 Amsterdam av
 Szczepansky, Chas. 1031 First av
 Thompson, Launcelot, 650 Eighth av
 Thompson & Roston, 309 Spring
 Uhl, John, 175 E. Third
 Waeh, William, 177 Park row
 Wegener, Hugo, 129 Amsterdam av
 Weil, Isodor, 585 Eleventh av
 Weiss, Adolph, 1597 Ave. A
 Wiener, Samuel, 572 Ninth av
 Wilfener, Emil, 50 Amsterdam av
 Wille, A. & Son, 2423 Second av
 Winter, Bernhard, 1545 First av
 Winter, Edward F. 477 Ninth av
 Wohl, Max, 321 Bleecker
 Wolf, Julius, 1524 Fourth av
 Wolf, Simon, 741 Ninth av
 Wolf, William, 1582 First av
 Woolreich, Henry, 2243 First av
 Yung & Co. 793 Second av
 Zillakus, William, 57 First av
 Zimmer & Bernhold, 452 Second av
 Zumbuehl, Chas. 687 Courtland av

PAINTS, OILS, ETC., WHOLESALE.

Abraham Brothers, 473 Sixth av
 Armstrong & McClintock, 229 Pearl
 Ayres, P. & Son, 424 Broome
 Baker, S. T. & Co. 295 Pearl
 Bayley, John, 240 Pearl
 Bouton, Adrian F. 188 Gansevoort
 Breinig's Silicate, 240 Pearl
 Childs, Charles M. & Co. 225 Pearl
 Chilton Mfg. Co. 147 Fulton
 Consolidated Ultramarine Co. Ltd. 55 Maiden lane
 Coulston, J. W. & Co. 140 Maiden la
 Crockett, David B. Co. 84 William
 Denton, Fred. S. 529 West & 114 Gansevoort
 Devoe, F. W. & Co. 103 Fulton (see add p. 90)
 Doggett, S. & Bro. 83 Nassau
 Dunham, Thomas C. 68 Murray
 Feigel, M. & Brother, 149 Mercer & 519 W. 15th
 Fernoline Chemical Co. 18 Broadway
 Fienecke, Geo. 3022 Third av
 Fleming Cement & Brick Co. 23 Liberty
 Gantert, Paul & Son, 482 Third av
 Gardiner, George N. 53 South
 Gerstle, R. H. & Brother, 288 Bowery
 Giffing, John C. & Son, 23 South
 Harrison Bros. & Co. 117 Fulton
 Hawthorne, A. F. & Co. 24 State
 Howell, Charles H. & Co. 79 Maiden la
 Isley, Doubleday & Co. 229 Front
 Interstate Oil Refining & Color Co. 52 Broad
 Keppelmann, Adolphus, 192 Fulton
 Kiernan, B. F. J. 130 Maiden la
 Kohnstamm, H. & Co. 126 Chambers
 Lauer, Mary P. 165 Prince
 Linden, H. & Co. 39 Dey
 Litho. Carbon Co. 45 Broadway
 Longman & Martinez, 207 Pearl
 Marx, John & Co. 221 Hudson
 Morrison Mfg. Co. 24 Park pl
 Murdoek, E. O. & Co. 104 John
 Pfingsthorn, William A. 16 Warren
 Pierce, F. O. & Co. 170 Fulton
 Pleasants, Chas. H. 59 W. Houston
 Pomroy & Fischer, 30 Frankfort
 Reynolds, C. T. & Co. 106 Fulton
 Rickard & Hubbe, 23 State
 Salomon, L. A. & Brother, 216 Pearl
 Schwartz, E. H. 23 Av. A (see add p. 106)
 Sherwins Williams Co. 178 Fulton
 Somer, John E. (The) Paint Co. 305 Pearl
 Stevens' Paint Specialty Co. 17 East
 Stewart, William H. 182 Front
 Stoeckel, J. R. 35 Dey
 Taintor, Henry F. 281 Pearl
 Tiemann, D. F. & Co. 44 W. Broadway & 129th & 12th av
 Toch Bros. 35 Bowery
 Weir, William B. 72 Broadway
 Whittier, Fuller & Co. 72 Broadway
 Zinsser, William & Co. 197 William

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Childs, William H. H. 73 Maiden la
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The GUM ELASTIC ROOFING

Is Absolutely Non-Combustible and
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GUM ELASTIC ROOFING COMPANY,
41 West Broadway, New York.

See Advertisement, page 75.

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way
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Mica Roofing Co. 73 Maiden la
New, T. Mfg. Co. MacIntyre bldg. 874 Broad-
way
New York Coal Tar Chemical Co. 10 Warren
New York Roofing Co. 437 E. 23d
N. Y. Iron Roofing & Corrugating Co. 29
Broadway (see add p. 51)
Schwoerer, J. 8 E. 2d (see add p. 142)
Stewart, William H. 182 Front
Swartz, E. H. 23 Av. A (see add p. 106)
Turtton, Thomas, 83 Maiden la (see add p.
73)
Turtton, William H. & Co. 83 Maiden la
Warren Chemical & Mfg. Co. 81 Fulton
Wrought Iron Paint Co. 15 State

PAINTERS, DECORATIVE.

Abberley, John & Son, 151-153 W. 25th
Ackert & Schroeder, 525 W. 23d
Adams, Geo. 821 Ninth av
Adamson & Gaffney, 657 Sixth av
Agnew, J. E. 364 W. 84th
Allen, W. L. & Co. 654 Sixth av
Althaus, August H. 181 Sixth av
American Tapestry & Decorative Co. J. F.
Douthitt, 286 Fifth av. (see add p. 91)
Andres, Philip, 52 & 280 W. 19th
Armitage, Joseph, 171 E. 127th
Bachman Bros. 102 Cedar

BACHMAN BROS.,
PAINTERS & DECORATORS,
GRAINING AND GLAZING.

102 Cedar Street, Near Church St., N. Y.

House, Store and Office Painting a Specialty. Paper
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Bausemar, H. 322 E. 80th
Beacom, Andrew, 166 E. 127th
Beam, Nathaniel B. 112 W. 31st
Bearkland, Albert, 417 Fourth av
Beattie, John, 245 W. 46th
Beletti, Frank P. 211 E. 84th

Betts, James E. 360 E. 62d
Bevier, Isaac, 315 W. 53d
Beyel, A. & Son, 1608 First av
Bick, Francis, 204 E. 47th
Bickford, Nelson N. 1267 Broadway
Bird, Frank & Son, 209 Columbus av

Frank Bird, Established on Sixth Avenue, 1859.
Joseph Frank Bird.

FRANK BIRD & SON,
PAINTERS, PAPERHANGERS & DECORATORS,
Sign Painting and Gilding on Glass.

209 Columbus Ave., Bet. 69th and 70th Sts., N. Y.

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JOHN BLADY,
ARTISTIC INTERIOR DECORATOR,

364 AMSTERDAM AVENUE,

Between 77th and 78th St., NEW YORK.

All Practical Painting and Paperhanging. Wall Papers
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Boelson, Otto, W. 59th n Eighth av
Bolster, E. W. 305 E. 114th
Bonwill, Charles E. H. 7 Murray
Bouche, Henry L. 874 Broadway (see add p.
93)

Brady, Peter, 347 Ninth av
Breuer & Behrens, 501 Fifth av
Bristow, G. 2305 Eighth av
Brower, Peter H. 112 W. 36th
Brower, W. E. 1712 Park av
Brunner, Chas. D. 385 E. 4th
Carion, Philip H. 306 E. 40th
Chapman, R. J. Co. 24 E. 42d
Chipier, Henry, 315 E. 113th
Clarkson & Allan, 82 Eighth av
Collier, Charles C. 270 Eighth av
Cooney, Dennis J. 589 Third av
Corner, John & Son, 651 Sixth av

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Dabelstein & Johansmeyer, 345 Columbus av
Daere, Edward, Boulevard n W. 81st
Daisey, P. 880 Third av
Davis & Barr, 190 Ninth av
Deleva, Maurice, 26 Bond
Dillon, J. P. 1526 Ninth av
Dillon, Thomas, 1032 Third av
Dixon Bros. 1842 Ninth av
Dobbs, Sandy L. 400 Lenox av
Donnelly & Johnson, 32 E. 59th
Dorr & Bedell, 1997 Lexington av
Douglass, William J. 145 E. 40th
Dowling, Martin, 416 Sixth av

Elmeyer, John C. 982 Sixth av
 Edmonds, Abraham, 925 Broadway
 Engel, Herman, 12 Second av
 English, Melvin L. 2134 Eighth av
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 Noll, Geo. 723 Columbus av
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 Dailey, Montague & Scudder, 251 W. 125th

Davenport, A. H. & Co. 299 Fifth av
 Durston, Thomas W. 244 Spring
 Eisenberg, Joseph, 214 Greenwich
 Eisenger, John F. 673 Ninth av
 Entwistle & Bolton, 2724 Third av
 Feinberg, W. 76 Mott
 Fluri Bros. 2722 Tenth av
 Freed, David, 72 Mott
 Harrison, Emma, 33 Attorney
 Henderson Bros. 2 W. 125th
 Henry, James, 800 Eighth av
 Holmes, John B. 207 Hudson
 Jacobsen, Henry A. 254 W. 23d
 Jaegar, Charles, 526 First av
 Johnson, Stephen S. 158 Canal
 Kelly, John M. 229 Grand
 Kelly & Jurisch, 1299 Lexington av
 Lane, James T. 2418 Second av
 Levy, Max, 78 Mott
 Limbacher, Philip C. 206 E. 37th
 Litowich, Max, 1991 Third av
 Lubelsky, Reuben & Son, 74 Mott
 McHugh, Joseph P. & Co. 3 W. 42d
 Martin, Frederick C. 1488 Broadway
 Merritt, John H. 128 E. 125th
 Neilson, N. Bayard, 20 E. 21st
 Newman, Charles H. 2109 Seventh av
 Prankard, George, 324½ Grand
 Reiss, Louis, 1540 Third av
 Rinehart, E. & Son, 228 W. 23d
 Roxbury, Theodore, 291 Lenox av
 Runkel Bros. 7 Ridge
 Sehubert, Alfred, 352 First av
 Schwerin, Julius, 33 Columbia
 Simpson, Geo. W. 252 W. 29th
 Sims, James E. 170 Bowery
 Smith, Burton, 548 Hudson
 Smith, Enos B. 56 W. Broadway
 Springhorn, Henry, 3389 Third av
 Steuhl, Jacob, 68 Greenwich av
 Taylor, John D. 2018 Seventh av
 Taylor, T. Lanning, 705 Sixth av
 Townley, George E. 458 Pearl
 Van Horn, Martin L. 104 W. 29th
 Walter & Stearns, 23 W. 23d
 Waters, Hyman, 68 Mott
 Waters, Michael, 60 Mott
 Weiffenbach, C. & H. 196 E. Houston
 Weigert & Wilsnack, 664 Third av
 Wheeler, Z. Parish, 678 Lexington av
 Wicks, John H. 463 W. 42d
 Wiggins, George, 2204 Seventh av
 Winter, Edward, 93 Av. A
 Wolf, Adam, 577 Ninth av
 Yankauer, Emanuel, 74 Av. B

PAPIER MACHE DECORATORS AND MFRS.

Adt Bros. 536 Broadway
 Berger's, H. Sons, 101 Fourth av
 Bouche, Henry L. MacIntyre bldg. 874 Broadway (see add p. 93)
 Dessart Bros. 110 Chambers
 Ellin, Kitson & Co. ft. W. 25th
 Fischer, Schroeter & Co. 105 W. 42d
 Gibson's, William, Sons, 142 E. 33d
 Hall, J. T. 160 Fifth av

Henry Bros. r 223 E. 23d
 Kerr & Rasario, 229-237 W. 32d
 Klee Bros. 202 E. 42d

KLEE BROTHERS, Modelers,

Ornamental Stucco, Paper Maché and Composition Work.

ARTIFICIAL MARBLE.

202 EAST 42d STREET, NEW YORK.

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 Manduit, L. 169 W. 25th
 Morrison, J. & J. 233 E. 42d
 Nilson, William, 1535-1537 Broadway
 Poli, Joseph A. 145 Wooster
 Pottier, Stymus & Co. 375 Lexington av
 Shannon, Miller & Crane, 46 Maiden la
 Sinclair's, H. Sons, 327 Seventh av
 Spiesser, Ottomar, 103 E. 2d

PARIS WHITE MFRS.

Hammill & Gillespie, 240 Front
 King, V. C. & C. V. 517 West
 Taintor, Henry F. 281 Pearl
 Tomkins, Calvin, 150 Broadway (see add p. 140)
 Truslow & Co. 219 Pearl and 4 Platt

PARIS WHITE AND WHITING.

Hammill & Gillespie, 240 Front

PARQUET FLOORS AND CEILINGS.

Aeschlimann & Pellarin, 231 E. 28th
 Bouche, Henry L. 874 Broadway (see add p. 93)
 Boughton & Terwilliger, Fifth Avenue Hotel, 23d and Fifth av
 Boynton & Van Winkle, 129 Fifth av and 151 Eleventh av
 Dale Tile Mfg. Co. (Ltd.) 398 Broome
 Dinneen, 913 Sixth av
 Hannan, William & Co. 23 Union sq W.
 Kertscher & Co. 528-532 W. 24th
 Koch, G. W. & Son, 168 W. 34th
 Kruger & Albert, 314 E. 75th
 Laesser, John G. 797 Sixth av
 Mosaic Wood Co. 315 Fifth av
 National Wood Mfg. Co. 129 Fifth av
 N. Y. Flexible Wood Flooring Co. 17 W. 42d (see add p. 92)
 Ortlieb, M. & Son, 42-50 W. 67th

M. ORTLIEB & SON,

Manufacturers and Contractors of

Parquet Floors & Wood Carpets,

FACTORY AND OFFICE,

42-50 West 67th Street, New York.

Estimates Furnished. Parquet Floors Laid and Finished. Orders by mail Promptly Attended to. Telephone Call, 821 35th St.

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Pope & Gottschalk, 501 E. 70th
Prince & Muir, 310-316 E. 95th

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PARQUETRY MANUFACTURERS**

**Nos. 310-316 EAST 95th STREET,
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Ceilings, Wainscoting, Parquet Flooring, Wood Carpeting.
Benj. Prince. Y. J. Muir.

Rider, Charles E. 315 Fifth av
Roak, Charles, 212 W. 36th

**CHARLES ROAK,
WAX and VARNISH POLISHER,**

And Repairer of Antique Furniture.

212 West 36th St., Near Seventh Ave., N. Y.
Parquet Floors Cleaned and Polished. All Kinds of
Waxing, Varnishing and Polishing. China, Glass and
all Household Goods Packed.

Stair, E. D. & Co. 7 W. 14th
Traitel Bros. 499 Fifth av (see add p. 82)

**PARQUET MOSAIC AND
INLAID FLOORS.**

Boughton & Terwilliger, 23d and Fifth av
(Fifth Av. Hotel)
Boynton & Van Winkle, 129 Fifth av and 151
Eleventh av
Kertseher & Co. 528-532 W. 24th
Koeh, G. W. & Son, 168 W. 34th
Mosaic Wood Co. 315 Fifth av
N. Y. Flexible Wood Flooring Co. The, 17 W.
42d

New York Flexible Wood Flooring Co.,

Manufacturers of

WOODEN CARPET and PARQUETTE FLOORS.

Salesroom, 17 W. 42d St., N. Y.

Office and Factory, 409, 411 & 413 107th Street, New York.

Prince & Muir, 310-316 E. 95th
Pyrogravure Wood Co. 230 E. 37th (see add
pp. 96, 97)

**PATTERN AND MODEL
MAKERS.**

Abel, Mary, 508 W. 24th
Adamson, I. 137 Eighth
Boulter, James, 508 Pearl
Burrows, Wm. 65 Cliff
Collins, Edward, 63 Elizabeth
Curtis, Chas. L. 139-143 Centre
Daniel, Thomas, 54 Fulton
Dassau, Edward, 117 Walker
Gardain, Wm. & Son, 98 John
Hollingsworth & Co. 120 W. 25th
Keck, John, 952 E. 149th

Knowles, Geo. E. 69 Beckman
La Roza, George W. 550 W. 32d
Lowe, Robert, 110 Fulton
Merckling, Andrew, 83 S. Fifth av
Morgan, Henry. 2578 Third av
Morrell, Samuel, r 59 Ann
Nichols, P. & Co. 137 Elm
N. Y. Pattern Machine and Die Co. 442 Water
O'Gorman, M. 59 Elm
Pither, Wm. r 249 Spring
Quick, E. B. & Bro. 818 Fifth av
Reinhardt Bros. 1588 Broadway
Samuelson, F. 60 Cliff
Schmidt, August G. 65 Park pl
Schmeekloth, Hans A. 530 W. 28th
Schuck, John G. 162 E. 35th
Smith, Chas. S. 47 Ann

**CHAS. S. SMITH,
PATTERN MAKER,**

No. 47 ANN STREET,

Between Nassau and William Sts., NEW YORK.

Millwright, Engine and Stove Work. Cocks, Valves,
Electric Work, &c. Satisfaction Guaranteed.

Smith & Lowe, 16 Dutch
Van Wagener & McNab, 176 Bank
Vice, George, 144 Centre
Wallenweber, Aug. 169 William

**A. WOLLENWEBER,
Manufacturer of
MODEL STEAM ENGINES,
169 William Street, N. Y., Room 11.,**

Models for Inventors. Electro-Magnetic Machines. Op-
tical and Mathematical Instruments.

Wohltmann, Robert C. 325 Grand

PAVERS.

American Bituminous Rock Co. 45 Broadway
Asphaltic Slag Paving and Roofing Co. 29
Broadway
Barber Asph. Paving Co. The, 1 Broadway
Bolze, Henry, 41 Park row
Carvetti, Michael, 527 W. 28th
Chichizzola, Paul, 77 S. Fifth av
Empire Paving and Construction Co. 21 State
Granitic Sidewalk & Vitrified Paving Block Co.
137-139 Broadway

**Granitic Sidewalk & Vitrified Block Paving Co.
137 & 139 Broadway, N. Y.**

**Granitic and Artificial Stone in all its Branches
for Sidewalks, Parks, R. R. Depots, Stables,
Warehouses, etc.,**

Sole Agents for the Hollywood Paving Block, Manufac-
tured by the Ohio Paving Co., Columbus, O.

See Advertisement, page 135.

Hastings Pavement Co. 140 Pearl
International Pavement Co. 56 Wall
Metalithic Paving Co. 115 Broadway
Moens Asphaltic Cement Co. 103 Maiden la

Paving Blocks, Asphaltum, —Paving Blocks, Fire Clay, —Paving Blocks, Granite.

Mt. Desert Paving Co. (Ltd.) 41 Park row
National Vulcanite Co. 29 Broadway
Nenchatel Asphalte Co. The, 265 Broadway
(see add p. 135)
New, T. Mfg. Co. MacIntyre bldg. 874 Broad-
way
N. Y. & Bermudez Co. 55 Beaver
N. Y. & Maine Granite Paving Block Co. 5
Beekman
Peirce, John, 5 Beekman
Perfect Block Paving Co. 137 Broadway
Portland Cement Stone Co. Central bldg. 143
Liberty
Saucke, Charles W. 58 Pine
Schillinger Fire Proof Cement and Asphalte
Pavement Co. 401-413 E. 91st
Schneider, N. 652 E. 12th
Sicilian Asphalte Paving Co. The, Times bldg.
Smith, F. V. & Co. 165th and Forrest av
Standard Asphalt Co. 54 Wall
Swiss Asphalt Rock Paving Co. 110 John
Taylor, Matt. Paving Co. 15 State (see add p.
134)
Thilemann, F. jr. & Co. 165th & Forrest av
Thomas, E. H. 173 Broadway
Trinidad Asphaltic Paving Co. 29 Broadway
Union Pavement Co. 45 Broadway
U. S. Artificial Stone Co. branch office 145
Broadway, Charles H. Colman & Co. (see
add pp. 136, 137)
Van Orden, Edward & Co. 110 John
Warren Chemical & Mfg. Co. 81 Fulton
Warren-Scharf Asphalt Paving Co. 81 Fulton
Wehn Pavement Co. Central bldg. 143 Liberty
West Indies Asphalt Co. 50 Wall
Wilson & Baillie Mfg. Co. 45 Broadway
Wootton, E. H. 35 Broadway

PAVING BLOCKS, AS- PHALT.

Bolze, Henry, Times bldg. 41 Park row
Hastings Paving Co. The, 140 Pearl
Neuchatel Asphalte Co. Robert Butcher, mana-
ger, Times bldg. 41 Park row (see add p. 135)
Schillinger Fire Proof Cement & Asphalt Pave-
ment Co. 401-413 E. 91st
Sicilian Asphalte Paving Co. Times bldg. 41
Park row
Taylor, Matt. Paving Co. 15 State (see add p.
134)
Warren Scharf Asphalt Paving Co. 81 Fulton
Wootton, E. H. 35 Broadway

PAVING BLOCKS, AS- PHALTUM.

Hastings Pavement Co. 140 Pearl
Lamson, John S. & Bro. 77 Maiden la
Moens Asphaltic Cement Co. 103 Maiden la
Saucke, Charles W. 58 Pine
Tait, John G. & Co. 100 Maiden la

PAVING BLOCKS, FIRE CLAY.

Colman, Chas. H. & Co. 145 Broadway

UNITED STATES FIRE CLAY CO., MANUFACTURERS OF

FIRE CLAY AND ALL FIRE CLAY PRODUCTS,
FLUE LININGS AND CHIMNEY TOPS.

CHARLES H. COLMAN & CO.,
145 BROADWAY, N. Y.

See Advertisement, page 136.

Ohio Sewer Pipe Co. Branch Office 145 Broad-
way, Chas. H. Colman & Co. (see add p. 136)
Porter, John Co. The, 45 Broadway
Robbins, George B. & Co. Third av. and 136th
(see add p. 122)
Thomas, E. H. 173 Broadway
U. S. Fire Clay Co. Branch Office 145 Broad-
way, Chas. H. Colman & Co. (see add p. 137)
Washington Fire Clay Co. 93 Nassau

PAVING BLOCKS, GRAN- ITE.

Booth Bros. & Hurricane Isle Granite Co. 60
Bank (see add p. 124)
Granitic Sidewalk & Vitrified Paving Block Co.
137-139 Broadway
Hummel, James H. 153 Fulton
Mt. Desert Paving Co. Times bldg.
New York & Maine Granite Paving Block Co.
5 Beekman
Norman & O'Brien, 23 South
O'Brien Bros. 49 South
Pierce John. Temple Court, 5 Beekman
Smith, Francis H. 16 Exchange pl

PAVING CONTRACTORS.

American Bituminous Rock Co. 45 Broadway
Asphaltic Slag Paving & Roofing Co. 29 Broad-
way
Baird, M. & J. 339 E. 63d
Barber Asphalt, The, Paving Co. Washington
bldg. 1 Broadway
Beck, Louis J. 58 Cedar
Becker, Alexander R. 672 Columbus av
Bolze, Henry, Times bldg. 41 Park row
Caravattin, Michael, 527 W. 28th
Chichizzola, Paul, 77 S. Fifth av
Colman, Charles H. & Co. 145 Broadway
Comius & Evans, 81 Fulton
Compagnie Generale des Asphaltes de France,
35 Broadway
Continental Conduit Paving Co. 155 Broadway
Coyle, Joseph C. 258 Broadway
Crimmins, J. D. & T. E. 1043 Third av
Culver, Alston G. 426 Amsterdam av
Denton & Ahlstrom, 2 Stone
Doak & Beck, Kingsbridge rd. and 166th
Empire Paving & Construction Co. 21-24 State

Everett, Charles J. 174 Chambers
 Fitzgerald, Thomas, 506 E. 56th
 Gearty, T. 52 W. 97th and 417 E. 65th
 Granite Sidewalk & Vitrified Paving Block Co.
 137-139 Broadway (see add p. 135)
 Guidet, Charles, 237 Broadway
 Hastings Pavement Co. 142 Pearl
 Henninger, A. & Co. 306 E. 116th
 Hilgers, William, 163 W. 104th
 Howell, A. J. 336 W. 19th
 Hutchinson, A. J. 150 Broadway
 Hygienic Concrete Co. 52 Broadway
 International Pavement Co. 56 Wall
 Kelly, William, 609 W. 47th
 Kirchner, Charles, 73 Cannon
 Koster, Charles, 5 Park pl. 347 Stanton
 Lawrence, Frederick W. 16 Exchange pl
 Lehmann, Charles, St. Nicholas av. e W. 119th
 Macknight Flintic Stone Co. 150 Broadway (see
 add p. 7)
 McIntyre, Peter, 443 Eleventh av
 Metalithic Paving Co. 115 Broadway
 Moens Asphaltic Cement Co. 103 Maiden la
 Mosher Brothers, 151 W. 128th
 Mt. Desert Paving Co. Times bldg.
 Mulry, James B. 23 Rutgers
 Myer, Louis, 1066 Madison av
 Neuchatel Asphalte Co. Ltd. 265 Broadway,
 Robert Butcher, manager (see add p. 135)
 New York & Bermudez Co. 55 Beaver
 N. Y. Manufacturing & Pavement Co. 15
 Broad
 North American Pyrogranite Co. 52 W. 15th
 Pierce, John, Temple Court
 Reilly, H. J. 31 33 Broadway
 Saacke, Charles W. 58 Pine
 Schneider, N. 652 E. 12th
 Sicilian Asphalte Paving Co. Times bldg. 41
 Park row, Henry Bolze, manager
 Slattery, James, 218 W. 57th
 Smith, F. V. & Co., E. 165th e Forrest av
 Smith, John G. 511 W. 57th
 Spenglar, William, 164 E. 84th
 Standard Asphalt Co. 54 Wall
 Stark, John H. & Co. 328 E. 102d
 U. S. Artificial Stone Co. Branch Office 145
 Broadway, Chas. H. Colman & Co. (see add
 p. 137)
 Taylor, Matt. Paving Co. 15 State (see add p. 134)
 The New York Mastie Co. 35 Broadway
 The Schillinger Fire Proof Cement & Asphalt
 Co. 401-413 E. 91st
 Thilemann, F. jr. & Co. 165th e Forrest av
 Trinidad Asphalt Paving Co. 29 Broadway
 Union Pavement Co. Aldrich Court bldg. 45
 Broadway
 Van Orden, Edward & Co. 110, John
 Warren Scharf Asphalt Paving Co. 81 Fulton
 Wehn Pavement Co. Central bldg. 143 Liberty
 West Indies Asphalt Co. 50 Wall
 Wilson & Baillie Mfg. Co. Aldrich Court bldg.
 45 Broadway
 Wootton, E. H. 35 Broadway

PAVING CONTRACTORS, ARTIFICIAL STONE.

Alsen's Portland Cement Works, Sinclair &
 Babson, Central bldg. 143 Liberty (see add p.
 121)

Comius & Evans, 81 Fulton
 Empire Paving & Construction Co. 21-24 State
 Everett, Charles J. 174 Chambers
 Howell, A. J. 336 W. 19th
 Macknight Flintic Stone Co. 150 Broadway (see
 add p. 7)
 Metallic Paving Co. 115 Broadway
 Neus, Henry, 454 E. 116th
 North American Pyrogranite Co. 52 W. 15th
 Schillinger Fire Proof Cement & Asphalt Co.
 401-413 E. 91st
 Schneider, N. 652 E. 12th
 Taylor, Matt. Paving Co. 15 State (see add p.
 134)
 U. S. Artificial Stone Co. Branch Office 145
 Broadway, Charles H. Colman & Co. (see add
 p. 137)
 Wehn Pavement Co. Central bldg. 143 Liberty
 Wilson & Baillie Mfg. Co. Aldrich Court bldg.
 45 Broadway
 Wootton, E. H. 35 Broadway

PAVING CONTRACTORS, ASPHALT.

Asphaltic Slag Paving & Roofing Co. 45 Broad-
 way
 Baetjer & Meyerstein, 5 Dey
 Barber Asphalt Paving Co. The, Washington
 bldg. 1 Broadway
 Cheekley, R. S. 753 Sixth av
 Compagnie Generale des Alphas de France,
 35 Broadway
 Hastings Paving Co. 140 Pearl
 Lawrence, F. W. Central bldg. 143 Liberty
 Moens Asphaltic Cement Co. 103 Maiden la
 Myers, Louis, 1066 Madison av
 Neuchatel Asphalte Paving Co. 265 Broadway,
 Robert Butcher, manager (see add p. 135)
 N. Y. Mastie Co. 35 Broadway
 Portland Cement Stone Co. 16 Exchange pl
 Schillinger Fire Proof Cement & Asphalt Co.
 401-413 E. 91st
 Schneider, N. 652 E. 12th
 Sicilian Asphalte Paving Co. The, Henry Bolze,
 manager, Times bldg. 41 Park row
 Taylor, Matt. Paving Co. 15 State (see add p.
 134)
 Union Pavement Co. 45 Broadway
 Van Orden, Edward & Co. 110 John
 Warren Scharf Asphalt Paving Co. 81 Fulton
 Wehn Pavement Co. Central bldg. 143 Liberty
 Wootton, E. H. 35 Broadway

PAVING MATERIALS.

Barber Asphalt Paving Co. Washington bldg. 1
 Broadway
 Boice, Hewitt, Blue Stone, Stewart bldg. 280
 Broadway (see add p. 128)
 Bolze, Henry, Times bldg. 41 Park row
 Bouker Contracting Co. 110 Wall (see add p.
 141)
 Brown & Fleming, 129 Broad
 Campbell, Robert A. 428 E. 48th
 Compagnie Generale des Alphas de France,
 35 Broadway

Hastings Pavement Co. 140 Pearl
 Hudson River Stone Supply Co. 45 Broadway
 Neuchatel Asphalte Co. Ltd. Robert Butcher,
 manager, 235 Broadway (see add p. 135)
 New, T. Manufacturing Co. 874 Broadway
 Macknight Flintic Stone Co. 150 Broadway (see
 add p. 7)
 Osterhoudt, Julius, Blue Stone, Stewart bldg.
 280 Broadway (see add p. 128)
 Snacke, C. W. 58 Pine
 Sicilian Asphalte Paving Co. Times bldg. 41
 Park row
 The New Jersey Trap Rock Co. 19 Broadway
 The U. S. Artificial Stone Co. Branch Office 145
 Broadway, Charles H. Colman & Co. (see add
 p. 137)
 Tomkins, Calvin, 150 Broadway
 Ulster Blue Stone Co. Stewart bldg. 280 Broad-
 way (see add p. 128)
 Warren Chemical & Manufacturing Co. 81
 Fulton
 Wootton, E. H. 35 Broadway

PERFORATED SHEET METAL MFRS.

Clinton Wire Cloth Co. George E. Howard,
 agent, 76 Beekman
 Harrington & King Perforating Co. 284 Pearl
 Mundt, Charles & Sons, 88-90 Walker

CHARLES MUNDT & SONS,

Manufacturers of

PERFORATED SHEET METALS,

Steel, Iron, Brass, Copper, Zinc,
 Tin, &c.

88 & 90 Walker St., NEW YORK,

See Advertisement, page 52.

The J. H. Drake Perforating Co. 112 Liberty

PERFORATED SHEET METAL DEALERS.

Clinton Wire Cloth Co. George E. Howard,
 agent, 76 Beekman
 Donegan & Swift, 11 Murray
 Harrington & King Perforating Co. 284 Pearl
 Mundt, Charles & Sons, 88-90 Walker

CHARLES MUNDT & SONS,

Manufacturers of

PERFORATED SHEET METALS,

STEEL, Iron, Brass, Copper, Zinc,
 Tin, &c.

88 & 90 Walker St., NEW YORK:

See Advertisement, page 52.

Pollock, Alexander, 15 Cortlandt
 The J. H. Drake Perforating Co. 112 Liberty

PETROLEUM AND GAS ENGINES.

Bates, McIlhargy & Co. 47 Dey
 Bockee, John J. 47 Dey
 Chase, William L. 34 Dey
 Clark Gas Engine Co. 113 Chambers
 Clerk Gas Engine Co. 142 Chambers
 Connolly Motor Co. 111 Broadway
 Dougherty, W. J. 124 Bank
 Goodwin Gas Stove & Meter Co. 113 Chambers
 Kirby & McDougall, 48 Dey
 Korting Gas Engine Co. 74 Cortlandt
 Kruse & Weiss Motor Co. 124 E. 14th
 Lawson Gas Engine, 205 Centre
 Manning, A. C. & Co. Otto Gas Engines, 18
 Vesey (see add pp. 15, 59)
 National Me er Co. 252 Broadway
 Rollasen Gas Engine, 15 Dey (see add p. 143)
 Sayer & Co. 37 Dey
 Stewart, John. 7 Thompson
 Ticonderoga Machine Co. 126 Liberty
 Welch & Lawson, 205 Centre
 Wing, L. J. Co. 126 Liberty (see add opposite
 Eighth Ward)

PIG IRON.

Abbott, Jere & Co. 23 Cliff
 Adams, Henry H. 86 Broadway
 Adams, H. W. & Co. 56 Pine
 Bartlett, N. S. & Co. 52 Wall
 Boynton, George A. (broker) 47 Broadway
 Chateaugay Ore & Iron Co. (wholesale dealers
 & mfrs.) 21 Cortlandt
 Chestnut Hill Iron Ore Co. (mfrs.) 52 Wall
 Columbus & Hocking Coal & Iron Co. (mfrs.)
 80 Broadway
 Cooper, Hewitt & Co. 17 Burling sl
 Corning, Edward & Co. 18 Cortlandt
 Crane, H. P. (broker) 117 John
 Crane, U. O. & Co. (brokers) 74 Wall
 Crocker Bros. 32 Cliff
 Crown Point Iron Co. 21 Cortlandt
 Dana & Co. 20 Nassau
 Ennis & Co. (importers) 62 New
 Evans, George A. 40 Wall
 Fox, John, 160 Broadway
 Goodwin, Robert N. 104 John
 Hubbard, Charles & Co. 284 Pearl
 Hudson River Ore & Iron Co. (mfrs.) 21 Cort-
 landt
 Illinois Steel Co. (mfrs.) 46 Wall
 Jones, Geo. W. (broker) 56 Wall
 Judson, B. F. 457-459 Water
 Leavitt, C. W. & Co. 171 Broadway
 Lee, James & Co. 72 Pine
 Lissberger, L. & Co. 46 Cliff
 Miller, Chas. A. (mfr.) 83 Maiden la
 Milne, A. & Co. (Swedish) 1 Broadway
 Moffat, Frank D. & Co. 81 Fulton
 Naylor & Co. (mfrs.) 45 Wall
 Neimegyei, F. (mfr.) 35 Broadway

Pipe and Boiler Coverings, Fossil Meal.—Pipe and Boiler Coverings, Magnesia.—Pipe and Boiler Coverings, Mineral Wool.—Pipe Bending and Coiling.

New York & Perry Coal & Iron Co. (mfrs.) 52 Broadway
Oxford Iron & Nail Co. 81-85 Washington
Pancoast & Rogers, 28 Platt
Perkins, C. Lawrence, 3 Cotton Ex
Pope's, Thos. J. Sons & Co. (broker-) 292 Pearl
Pottstown Iron Co. 280 Broadway
Poughkeepsie Iron Co. 69 Wall
Quincy, John W. & Co. (mfrs.) 98 William
Richards, D. W. & Co. 88-96 Mangin
Sterling Iron & Railway Co. (mfrs.) 45 William
Stetson, Geo. W. & Co. 69 Wall
Stiles, T. W. & Co. 130 Water
Thomas, Charles C. (broker) 9 Cliff
Thomas Iron Co. The (mfrs.) 52 Wall
Warren Iron Co. 102 Chambers
Warren, Wood & Co. 29 Broadway
Whittemore, H. & Co. 58 William
Williamson, James & Co. 63 Wall
Wood, Geo. R. (broker) 53 Broadway

PIPE AND BOILER COVERINGS, ASBESTOS.

Abendroth & Root Mfg. Co. 28 Cliff
Aeme Covering Works, 82 John
Ainsworth Boiler Covering Co. 171 Br'dway
American Steam Covering Co. N. Y. City
Asbestos Felting Works, 99 Maiden la
Bickford & Francis Belting Co. 53 Exchange place
Connolly, Bartholomew F. 55 Cedar
De Long & French, 128 Pearl
Gallaway, G. W. 322 Pearl
Gilmour, Robt. M. 82 John
Hayes, Edwin A. 69 Vestry
Higgins, Frank T. 89 West
Johns, H. W. Mfg. Co. 87 Maiden la
Keasbey, Robert A. 58 Warren
Leonard & McCoy, 118 Liberty
Mooney, Geo. & Son, 388 Second av
Pollock, Alexander, 15 Cortlandt
Shields & Brown Co. 130 Worth
Stewart, Wm. H. 182 Front
Sturges, Westcott & Harold Co. 192 West
United States Mineral Wool Co. 2 Cortlandt (see add p. 112)
Van Wart, William H. 75 South
White, George A. 36 John

PIPE AND BOILER COVERINGS, FOSSIL MEAL.

Boltions, G. & J. R. Imp. Hot Water Heater, 114 Liberty, Geo. H. Raymond, mgr. (see add p. 69)

Fossil Meal Co. 2 Cedar
Keasbey, Robt. A. 58 Warren

PIPE AND BOILER COVERINGS, MAGNESIA.

Boltions, G. & J. R. Imp. Hot Water Heater, 114 Liberty, Geo. H. Raymond, mgr. (see add p. 69)
Keasbey, Robt. A. 58 Warren
Pollock, Alexander, 15 Cortlandt

PIPE AND BOILER COVERINGS, MINERAL WOOL.

Asbestos Felting Works, 79 Maiden la
Boltions, G. & J. R. Imp. Hot Water Heater, 114 Liberty, Geo. H. Raymond, mgr. (see add p. 69)
Gilmour, Robert M. 82 John
Pollock, Alexander, 15 Cortlandt
United States Mineral Wool Co. 2 Cortlandt

UNITED STATES MINERAL WOOL CO.,

MANUFACTURERS OF

Mineral Wool for Pipe Covering,
2 CORTLANDT STREET,
NEW YORK.

See Advertisement, page 112.

White, Geo. A. 36 John

PIPE BENDING AND COILING.

American Tube Works, 20 Gold
Billings Pipe Bender Mfg. Co. 42 Park pl
Boltions, G. & J. R. Imp. Hot Water Heater, 114 Liberty, Geo. H. Raymond, mgr. (see add p. 69)
Griffith, M. 79 John
Halloway, E. 160 Leonard
National Pipe Bending Co. 15 Cortlandt
Pollock, Alexander, 15 Cortlandt
Syreen, Charles, 117 Walker

PIPE BENDING MACHINES.

Billings Pipe Bender Mfg. Co. The, 42 Park pl
Pollock, Alexander, 15 Cortlandt

PIPE, CAST & WROUGHT IRON, GAS, WATER AND STEAM.

Abendroth & Root Mfg. Co. 28 Cliff (see add opp. Key to Ward Atlas)
American Tube & Iron Co. 98 John
Backus, Peter & Son, 133-135 W. 25th (see add p. 64)
Barr, Edward Co. Ltd. 78 John
Bell, Armistead Mfg. Co. 140 Centre
Blessing, Geo. A. & Co. 290 Pearl (see add p. 110)
Boltons, G. & J. R. Imp. Hot Water Heater, Geo. H. Raymond, mgr. 114 Liberty (see add p. 69)
Burtis, Morse & Co. 52 John
Campbell, Felix, 79 John
Cooke, Richard K. 48 Centre
Crane & Co. 40 Wall
Curtis & Co. 138 Centre
Dame & Townsend Co. 76 John & 29 Platt
Donegan & Swift, 11 Murray
Drummond, M. J. Corbin bldg. 192 B'dway
Eaton, Cole & Burnham Co. 82 Fulton cor. Gold
Fox, John, Guernsey bldg. 160 Broadway
Hooven, James, 78 John
Jamer, Jacob, 84 John
Kay, William H. 36 Dey
Keating, Edward F. 75 John & 33 Gold
Leonard & McCoy, 118 John
Lukens, Lewis N. 22 Gold
Lukens, William H. 22 Gold
Lynch & Christoph, 136 Liberty
McMann, T. R. & Bro. 60 Gold
McNab & Harlan Mfg. Co. 56 John
McNeal Pipe & Foundry Co. 53 Wall
Mellert Foundry & Machine Co. Gurnsey bldg. 160 Broadway
Moffatt, Frank D. & Co. 81 Fulton
Monitor Iron Works, 78 Centre
Nason Mfg. Co. 71 Beekman
National Pipe Bending Co. 15 Cortlandt
National Tube Works, Gurnsey bldg. 160 Broadway
Oil City Tube Co. 32 Cortlandt
Pancoast & Rogers, 28 Platt & 15 Gold
Patent Water & Gas Pipe Co. 41 Dey
Patriidge, W. T. & Co. 128 Broadway
Pennsylvania Tube Works, 37 Platt
Pierce, Charles D. 80 Beaver & 127 Pearl (see add opp. p. 212)
Reading Foundry Co. Ltd. Gurnsey bldg. 160 Broadway
Roberts, Geo. I. & Bros. 471-473 Fourth av (see add pp. 62, 63)
Santas Mfg. Co. 54 Gold
Seery, James F. 449 E. 150th
Simmons, John Co. 110 Centre & 155-162 Leonard (see add opposite Tenth Ward)
Spiral Weld Tube Co. 43 John

Springfield Foundry Co. Springfield, Mass. N. Y. office, Equitable bldg. 120 Broadway, room 12, 4th floor (see add p. 16)
Urquhart, John S. 46 Cortlandt
Walworth Mfg. Co. 54 Gold
Warren Foundry & Machine Co. Gurnsey bldg. 160 Broadway
Wells Rustless Iron Co. 52 John
Wells & Coutan Co. Ltd. 78 John

PIPE CUTTING MACHINES.

Backus, Peter & Son, 133-135 W. 25th (see add p. 64)
Eaton, Cole & Burnham, 82 Fulton
McShane, Henry, Mfg. Co. 625-627 Sixth av (see add p. 108)
Pollock, Alexander, 15 Cortlandt

PIPE, GALVANIZED IRON.

Abendroth & Root Mfg. Co. 28 Cliff (see add p. opp. Key to Ward Atlas)
American Tube & Iron Co. 98 John
Blakeslee, E. G. Mfg. Co. 78 Centre
Blessing, Geo. A. & Co. 290 Pearl (see add p. 110)
Drummond, M. J. 192 Broadway
Eaton, Cole & Burnham Co. 82 Fulton
Fox, John, Gurnsey bldg. 160 Broadway
Jamer, Jacob, 84 John
Keating, Edward F. 12 Cliff
Lathrop Co. 80 John
Lefferts, Marshall & Co. 100 Beekman
McNab & Harlan, 56 John
McShane, Henry, Mfg. Co. 625-625 Sixth av (see add p. 108)
Merry, John & Co. 535 W. 15th (see add p. 66)
Moorehead, McClaine & Co. 81 John
Nason Mfg. Co. 71 Beekman
National Tube Works Co. Gurnsey bldg. 160 Broadway
Pancoast & Rogers, 28 Platt & 15 Gold
Pittsburgh Tube Co. 81 John
Roberts, Geo. I. & Bros. 471-473 Fourth av (see add pp. 62, 63)
Simmons, John, Co. 110 Centre and 155 & 162 Leonard (see add opposite Tenth Ward)
Spiral Weld Tube Co. 43 John
Walworth Mfg. Co. 54 Gold
Warren Foundry & Machine Co. Gurnsey bldg. 160 Broadway

PIPE HANGERS.

Blackmore Heating Co. 88 John (see add p. 66)
Blake & Williams, 197 Wooster
Rutzler, E. 178 Centre

Pipe Hook, Expansion and Ring Plates.—Pipe, Salt Glazed and Vitrified.—Pipe, Sewer and Culvert.—Piping, Sheet Iron.

PIPE HEADS, EXHAUST.

Blake & Williams, 197 Wooster (see add p. 65)
 Donegan & Swift, 11 Murray
 McShane, Henry, Mfg. Co. 625-627 Sixth av (see p. 108)
 Roberts, Geo. I. & Bros. 471-473 Fourth av (see add pp. 62, 63)
 Rutzler, E. 178 Centre

PIPE HOOK, EXPANSION AND RING PLATES.

Blackmore Heating Co. 88 John (see add p. 66)
 Blake & Williams, 197 Wooster (see add pp. 42, 65)
 Bronson Supply Co. 72 Beekman
 McShane, Henry, Mfg. Co. 625-627 Sixth av (see add p. 108)
 Roberts, Geo. I. & Bros. 471-473 Fourth av (see add pp. 62, 63)

PIPE, SALT GLAZED AND VITRIFIED.

Colman, Chas. H. & Co. 145 Broadway (see add pp. 136, 137)
 Duffy, J. P. & Co. E. 138th c Railroad av
 Gilmour, Robert M. 82 John
 Indurated Fibre Pipe Co. Aldrich Court bldg. 45 Broadway
 Logans Sanitary Stall Drain Co. 854 Seventh av
 Nelson, William, 7 Chambers
 Ohio Sewer Pipe Co. Branch Office, 145 Broadway Chas. H. Colman & Co. agents (see add pp. 136, 137)
 Otis & Gorsline, 484 E. 138th and E. 146th c Railroad av
 Robbins, George B. & Co. 2473 Third av. cor. 136th (see add p. 122)
 Staten Island Terra Cotta Lumber Co. 120 Broadway (see add p. 130)
 Stewart & Co. 540 W. 19th, 312 Pearl and ft. of W. 18th (see add p. 4)
 United States Fire Clay Co. Branch Office, 145 Broadway, Chas. H. Colman & Co. (see add pp. 136, 137)

PIPE, SEWER AND CULVERT.

Colman, Chas. H. & Co. 145 Broadway (see add pp. 136, 137)
 Duffy, J. P. & Co. E. 138th st and Railroad av
 Gilmour, Robert M. 82 John
 Indurated Fibre Pipe Co. Aldrich Court bldg. 45 Broadway
 Logans Sanitary Stall Drain Co. 854 Seventh av
 McShane, Henry, Mfg. Co. 625-626 Sixth av (see add p. 108)
 Nelson, William, 7 Chambers
 Ohio Sewer Pipe Co. 145 Broadway, Charles H. Colman & Co. agts. (see add p. 137)

Otis & Gorsline, 484 E. 138th, E. 146th sts. and Railroad av
 Robbins, Geo. B. & Co. 136th and Third av (see add p. 122)
 Salamander Works, 61 Bethune
 Staten Island Terra Cotta Lumber Co. 120 Broadway (see add p. 120)
 Stewart & Co. 540 W. 19th, 312 Pearl and ft. W. 18th (see add p. 4)
 U. S. Fire Clay Co. Branch Office, 145 Broadway Charles H. Colman & Co. agents

CHARLES H. COLMAN & CO.

145 BROADWAY, N. Y.

SEWER PIPE,

Double Strength Culvert Pipe, Water Pipe,
 Fire Clay and all Fire Clay Products.

See Advertisement, page 137.

PIPING, SHEET IRON.

Abendroth & Root, 28 Cliff (see add opposite Key to Ward Atlas)
 McShane, Henry, Mfg. Co. 625-627 Sixth av (see add p. 108)

PLANING MILLS.

American Drier Co. 115 Broadway
 Bayersdorf, Michael, 440 Eleventh av
 Brassington, John D. r 261 W. 27th
 Brown, Elijah, 306 Eleventh av
 Collins, D. P. & Son, 42 Bethune
 Davis, John P. 70th st and Ave. A
 Douglas, R. B. Mfg. Co. 492 E. 139th
 East River Mill & Lumber Co. 92d, 93d and E. R.
 Eifert, J. F. & Q. H. Rasdovan, 183 Lewis
 Files & Co. 151 E. 128th
 Grissler & Son, 622-636 E. 17th
 Gustaveson, John, 476 E. 139th
 Hull, Jeremiah D. 713 Fifth
 Humbert & Wick, 151 Eleventh av
 Johnson, Russell, 459 Cherry
 Jonier Planing & Moulding Co. The, 476-480 E. 139th
 Kurts, M. & Son, 678 First av
 Lyon, John S. 310 W. 24th
 McDonough, William, 4 Tompkins
 Mandeville, H. V. 408 to 412 E. 104th
 Mathesheimer, Rudolph, 34 S. Fifth av
 Merrill, Frank R. 505 E. 18th
 Michenfender, Jacob A. 171 Suffolk
 Murphey, Martin, 509 W. 15th

W. 15th ST. PLANING & MOULDING MILLS,

M. MURPHEY, Prop.,

503 to 509 West 15th St., New York

AND
 508 West 16th Street, Near 10th Ave., New York.
 Planing and Matching, Re-Sawing, Timber and Band
 Sawing, Wainscoting, Mouldings, Casings, Door and
 Window Jambs, Trim, &c.

Plaster Board Slabs.—Plaster Cast Figures and Plaster Paris Workers.—Plaster
Paris Manufacturers.

Newell, D. C. & Sons, ft. of W. 19th (see add p. 103)
Nott, Francis A. 377 West
Peck, Eben, 24th st. and Eleventh av (see add p. 104)
Pritchard, E. M. Mott av. n E. 138th
Raabe, H. & Sons, 319 W. 64th
Raccius, Waldemar, 147 Eleventh av
Schureman, M. F. & Co. 512 First av
Schureman, M. F. & Co. First av. and 100th
Soder, William & Son, 580 Washington
Strauss, Simon, 179 Lewis
Wehr, Frederick, 130 Worth
American Drier Co. 115 Broadway (Dry Kilns)

PLASTER.

Adamant Manufacturing Co. Bennett bldg. cor
Fulton and Nassau (see add p. 116)
Consolidated Rock Plaster Co. 44 Broadway
Fisher, Erskine W. Welles bldg. 18 Broadway
(aeme cement plaster). (see add p. 117)
Hammill & Gillespie, 240 Front
International Rock Plaster Co. 44 Broadway
King J. B. & Co. (calcine plaster), 21-24 State
(see add p. 115)
King, V. C. & C. V. 517 West, Knickerbocker
Plaster Mills
Rock Plaster Co. of N. Y. 44 Broadway (see add
p. 113)
The American Machine Mortar Co. E. W. Sut-
phen, Gen. Manager, 126 Liberty
Tomkins, Calvin, 150 Broadway
Wotherspoon, Henry H. 423 W. 13th

PLASTER BOARD SLABS.

American Plaster Board Co. 52 New
De Rache, Leonard, 252 W. 70th (see add p. 133)
Eastern Plaster Board Co. 52 Broad
Grooved Plaster Slab Mfg. Co. 2 W. 14th
Robbins, Geo. B. & Co. 136th st. and Third av

Geo. B. Robbins & Co.,

IMPROVED PLASTER SLABS

For Ceilings, Partitions and Outside Walls,
to be used as a Foundation for
Cement and Plaster.

136th STREET and THIRD AVENUE.

See Advertisement, page 122.

The Schillinger Fire Proof Cement & Asphalt
Co. 401-413 E. 91st

PLASTER CAST FIGURES AND PLASTER PARIS WORKERS.

Aguellet, Juste, rear 2293 Bathgate av
Berger, Emil, 117 W. 100th
Berger, H. Sons, 101 Fourth av

Bernardini, Nicholas, 299 Broadway
Biagi, A. & Co. 63 Madison
Bonacorsi, Rafael, 214 Thompson
Bouche, Henry L. 874 Broadway (see add p. 93)
Castelvecchi, Louisa, 143 Grand
Corsi, E. & Son, 15 City Hall pl
Ellin, Kitson & Co. ft. 25th and N. R.
Gibson's, William, Sons, 142 E. 33d
Grooved Plaster Slab Mfg. Co. 2 W. 14th
Hall, J. S. 10 W. 23d
Henry Brothers, r 223 E. 23d
Lucchesi, Francis, 608 Water
Manduit, Louis, 169 W. 25th
Masini, A. & Co. 381 Water
Millard & Avery, 1267 Broadway
Morrison, J. & J. 233 E. 42d
Nielson, William, 1535-1537 Broadway
Plasterine Co. 412 E. 23d
Ryan, Michael, 727 Seventh av
Schwarzott, Maximilian M. 56 Washington sq.
S
Sinclair's, H. Sons, 327 Seventh av
Stereo Relief Mfg. Co. 229-233 E. 41st

THE

STEREO-RELIEF MANUFACTURING CO.,
229-233 East 41st St., New York.

Artistic Decorative Work. Manufacturers for the Trade
of Friezes, Dadoes, Panels, Fillings, Capitals, Medallions,
Mouldings, Sign Letters, &c.

Theatrical and Church Work are Special Features.

Walthausen, John H. A. 454 W. 41st

PLASTER PARIS MFRS.

Adamant Manufacturing Co. 95 Nassau (see add
p. 116)
Eastern Plaster Board Co. 50 New and 52 Broad
Hammil & Gillespie, 240 Front
King, J. B. & Co. 21 to 24 State (see add p. 115)
King, V. C. & C. V. 512 West
Miller & Vanvalan, 284 South
Paragon Mfg. Co. 247 W. 125th
Tomkins, Calvin, 150 Broadway
Van Valen, Jos. R. 284 South st. and 14 Vesey
Wotherspoon Bros. 426 W. 13th

PLASTERERS.

Aekerman, Jos. 212 W. 42d
Aeor, James H. 207 E. 125th
Adams, McCharles, 205 Tenth av
Anderson, James, 300 E. 42d
Antes, Chas. 1043 Park av
Bagnell, Wm. 167 E. 96th
Baker, George L. 324 E. 64th
Berger, Adolph, 100 Fourth av
Bermann, M. 1531 Second av
Borden, John, 537 Seventh av
Bowler, Michael, 48 Cortlandt
Brace, Chas. W. 158 E. 42d
Breen, John, 2 E. 85th
Brennen, Daniel, 851 Ninth av
Brenner, John, 871 Third av

Brower, C. W. 369 E. 4th
 Brower, George, 321 Eighth
 Brown, Andrew, 147 Hudson
 Brucker, John G. r 423 E. 12th
 Buckley, Edward, 1406 Third av
 Buckley, Joseph R. 843 Sixth av
 Butler, Edmond, 201 E. 37th
 Byhinney, John, 150 Elizabeth
 Byrnes, James, 210 E. 63d
 Byrnes, Thomas, 450 W. 41st
 Caddle, James, 201 E. 64th
 Cannon, John, 548 Second av
 Cashman, James, 354 Fourth av
 Clarkson, Thomas, 119 Greenwich av
 Conley, Chas. 524 Eighth av
 Conroy, Jas. 815 Eighth av
 Cook, Oliver W. 142 W. 38th
 Crawford, Geo. C. 218 W. 13th
 Creamer, Wm. E. 167 W. 19th
 Curran, David C. 967 Union av
 Curran, Thomas, 158 E. 36th
 Curry, John, 334 W. 37th
 Curtin, John, 102 E. 28th
 Daly, Peter, 779 Eleventh av
 Daly, William, 779 Eleventh av
 Dewhurst, John, 160 W. 43th
 Dillon, J. 305 W. 40th
 Dillon, James T. 347 E. 122d
 Dinger, Chas. 115 Elm
 Donaldson, James, 1769 Lexington av
 Donohue, Thomas, 1114 Second av
 Donovan & McDonnell, 929 Third av
 Dougherty, James, 5 Spring
 Dougherty, Mary A. 230 E. 110th
 Douglass & McMaster, Jackson av & 184th
 Doyle, John, 212 W. 32d
 Doyle, John, 138 W. 42d
 Doyle, Matthew T. 882 Sixth av
 Eagles, George H. 65 E. 126th
 Egan, Thomas, 1025 Second av
 Elin, Kitson & Co. ft. 25th & N. R.
 Fagan, John P. 9 Rector
 Featherston, Andrew, 138 Mott
 Fitzsimmons & Brogan, 134 W. 23d
 Flannery, John, 770 Second av
 Flood, James, 1672 Third av
 Footman, John, 211 W. 35th
 Freudenmacher, Philip, 1053 Second av & 509
 E. 153d
 Fruhling, Aug. F. 144 W. 128th

AUGUST F. FRUHLING,

Plain and Ornamental Plastering,

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 Residence, 16 East 134th St., NEW YORK.

Grate and Mantel Setting. Concreting, Mason Work,
 Flagging, &c. Jobbing of all kinds. Orders by Mail
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Gallin, John, 11 Canal
 Gardner, I. & Son, 216 E. 121st
 Gersterion, A. 5 Orchard
 Gleason, John, 202 E. 36th
 Glynn, John, 201 W. 42d
 Gordon, Wm. 373 W. 35th
 Grau, Ernest, 97 Stanton
 Greene, Michael C. 1768 Broadway
 Gregory, Francis, 45 Market
 Griffin, David, 224 Division
 Griffin, W. H. & S. J. 194 Division
 Guinard, Henry, 592 Washington
 Guion, John H. 165 E. 103d

Haas, Charles, 1559 Third av
 Haffey, Samuel, r 313 W. 25th
 Haigh, Hartley, 139 E. 43d
 Hamill, Thomas F. 606 W. 37th
 Hanks, S. E. 457 Hudson
 Hannon, James, 423 W. 39th
 Harlow, Edwin J. 363 W. 25th
 Harris, M. J. 418 Third av
 Harris, Peter, 59 Third av & 151 Fourth av
 Harrison, John, 360 E. 57th
 Hart, James, 72 W. 99th
 Hassall, Henry, 218 Thompson
 Healy, Thomas, 144 Seventh av
 Heffernan, James, 355 Ninth av
 Henry, John, 2315 Second av
 Hillebrand, John, 2027 Second av
 Hinklein, Jacob, 154 First av
 Hinklein, Jacob, 161 E. 4th
 Hogan, James, 145 E. 59th
 Holzer, Albert J. 1571 First av
 Inderwies, Valentine, 525 W. 46th
 Jackson, Francis A. 435 E. 113th
 Jarvis, Thomas, 362 E. 72d
 Jones, Henry, 54 Gt. Jones
 Kappel, Frederick, 156 Second
 Keating, John, 1977 Third av
 Keegan, Chas. E. rear 219 E. 38th
 Kelly, Chas. 56 New Chambers
 Kelly, Wm. J. 135 W. 33d
 Kennedy, Dennis, 107 Washington

D. KENNEDY,

MASON & PLASTERER,

No. 107 WASHINGTON STREET,
 NEW YORK.

Jobbing Promptly Attended to.

Kennedy, Edward, 469 Fourth av
 Kiesel, Andrew, 546 Fifth
 King, Samuel T. 462 W. 44th
 Kingston, Geo. W. 924 E. 149th
 Klee Bros. 202 E. 42d
 Lacroix, Daniel, 267 Spring
 Lang, Michael, 104 Av. A
 Lang, Simon, 2067 Second av
 Lantry, James, 359 E. 46th
 Lantry, James, 409 W. 24th
 Lawless, Thomas, 1072 Third av
 Leddy, Patrick, 877 Third av
 Ledwith, Thomas A. 805 Seventh av
 Lee, Hugh, 251 Seventh av
 Lehr, John, 71 Forsyth
 Leslie, Frank, 784 E. 146th
 Levin, A. 1978 Second av
 Levy & Miller, 104 Hester
 Liebermann, John, r 533 W. 42d
 Long, Wm. 233 E. 79th
 Long, Wm. 908 Sixth av
 Lyons, James, 422 W. 53d
 Lyons, John, 319 E. 48th
 McBrien, John D. 336 Hudson
 McCabe Bros. 1620 Broadway
 McCarthy, Jeremiah, 202 E. 20th
 McCloskey, Jos. 41 S. William
 McCormack, Frank, 362 Third av
 McCormack, Michael, 102 W. 127th
 McDaniels, R. 247 E. 41st
 McDermott, J. W. 93d & W. Boulevard
 McIntosh & Yule, 809 Sixth av
 McNally, John, 531 W. 40th

Plasterers' Hair, Goat and Cattle.

Maguire, Cornelius, 1557 Third av
 Mahoney, William, 733 Second av
 Maillard, Eugene, 118 Thompson
 Mallon, John, 203 W. 17th
 Maloney, John J. 805 Sixth
 Maloy, John J. 805 Sixth av
 Manser, Theophilus J. 370 W. 51st
 Marcellus, Lawrence V. 334 W. 24th
 Mehrtens, John, 923 Sixth av
 Messner, Jacob, 92 First
 Meyer, Henry, 55 Rose
 Mooney, P. 108 Seventh av

P. MOONEY,
MASON & PLASTERER,

408 SEVENTH AVENUE,

Between 32d and 33d Streets, NEW YORK.

Boilers Set and Repaired, Engine Beds Built, Brown
 Stone Soots Cleaned and Repaired.

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 Moran, James, 2574 Eighth av
 Morgan & Lorick, 1301 Third av and 319 E.
 78th
 Moriarty, M. J. 24 Market
 Morris, Thomas, 133 Ninth av
 Morrison, James, 119 Seventh av
 Muldoon, Edward, 2224 Seventh av
 Mulling, August P. 144 W. 128th
 Mulrane & Long, 908 Sixth av

MULRANE & LONG,
MASONS AND PLASTERERS,

908 SIXTH AVENUE,

Between 51st and 52d Sts., NEW YORK.

Jobbing Promptly Attended to.

Munzberg, Gustave, 287 Broome
 Murphy, John, 396 Third av
 Murphy, Michael, 615 Eighth av
 Murphy, Patrick, 174 E. 85th
 Murray, J. A. 182 Ninth av
 Murray, Wm. 229 E. 69th
 Nash, Sidney H. 453 E. 135th
 Neville, Michael, 44 W. 62d
 Neville, Patrick, 1692 Amsterdam av
 Newman, Michael, 337 W. 26th
 Noble, Robert, 2 Attorney
 Nolan, Thomas G. 140 S. Fifth av
 Nolan, Wm. 73 King
 Noonan, James, 1076 Third av
 Noonan, James, 2110 Third av
 O'Brien, Michael J. 206 Sixth
 O'Connell, J. 734 Tenth av
 O'Malley, James, 176 E. 85th
 O'Neill, Francis, 556 W. 44th
 Ormsby, Geo. 96 Elm
 O'Rourke, John, 241 E. 80th
 Orr, Henry, 1565 Park av
 Parker, F. H. 265 W. 24th
 Parkinson, Charles, 4 E. 17th
 Paul, John, 404 E. 16th
 Paulson, J. 101 W. 26th
 Percy, Samuel H. 195 E. 76th
 Pfenning, A. 544 E. 11th
 Phelan, Michael, 205 E. 32d

Phillips & McKay, 1037 Third av
 Pierce, Edward A. 75 Ninth av
 Pool, Joseph, 1 Peck sl
 Power Bros. 1764 Broadway
 Proctor, John, 429 E. 70th
 Quinn, John, 2066 Third av
 Ray, John, 2235 Amsterdam av
 Reed, George M. 17 E. 17th
 Reesner, A. 22 Rivington
 Reilly, Austin J. 179 E. 73d
 Reynolds, Joseph, 205 W. 20th
 Riker, John P. 507 W. 28th
 Ross, George D. 719 E. 46th
 Rowan, Patrick, 488 College av
 Ryan, Dennis, 913 Greenwich av
 Ryan, James, 243 W. 66th
 Ryan, John, 348 E. 18th
 Ryan, Michael, 727 Seventh av
 Ryan, M. J. 829 Eleventh av
 Sartorius, Herman, 145 Chrystie
 Schafer, George, r 210 Seventh
 Schmidt, Henry, 642 Sixth av
 Schneider, Martin, 258 Second
 Seery, Wm. 152 Sixth av
 Seitz, Adam, 213 Av. A
 Shepherd, Henry B. 146 E. 16th
 Sigmund, Chas. 373 First av
 Sleavin, J. 51 Monroe
 Smith, John L. W. 136th c. Eighth av
 Sommer, J. 139 Broome
 Spelman's, P. H. Sons, 200 E. 19th
 Swartz, H. 197 Amsterdam av
 Taaffe, Wm. 347 Ninth av
 Taffe, John, 158 E. 31st
 Tannett, John, 327 W. 41st
 Taylor, Jonah, 1270 Third av
 Tocher, F. 158 E. 36th
 Tracy, Thomas & Son, 201 E. 23d
 Tracy, Thomas, 197 E. 100th
 Tyson, Noble P. 629 Ninth av
 Vannett, John, 327 W. 41st
 Wait, R. 2 Sullivan
 Wall, Charles, 410 Lenox av
 Walsh, James, 210 E. 77th
 Walsh, James, 61 Oliver
 Walsh, P. & Son, 269 Seventh av
 Walter, Jacob, 57 Av. B
 Walther, Henry, 160 Ridge
 Wards, John, 441 W. 48th
 Winn, A. 160 W. 55th
 Witson, Henry, 226 E. 34th
 Woods, Henry, 118 W. 102d
 Zeis, A. 39 Rose

PLASTERERS' HAIR,
GOAT AND CATTLE.

Tomkins, Calvin, 150 Broadway
 Van Valen, Jos. R. 284 South & 14 Vesey
 Weeks, Chas. R. & Bro. 74 Murray

PLASTERERS, ORNAMEN-
TAL.

Berger, H. Sons, 101 Fourth av
 Bouche, Henri L. MacIntyre bldg. 874 Broad-
 way (see add p. 93)

H. BERGER SONS, ARTISTS IN STUCCO, DESIGNERS, MODELERS

And Manufacturers of

PLASTER AND PAPIER MACHE DECORATIONS.
No. 101 Fourth Ave., bet. 11th and 12th Sts., N. Y.

Country Orders Promptly and Carefully Executed,
Packed and Shipped.

Brace, Chas. W. 158 E. 42d
Dougherty, James, 5 Spring
Doyle, M. T. 882 Sixth av
Ellin, Kitson & Co. ft. 25th & N. R.
Fischer, Schroeter & Co. 105 W. 42d
Gibson's, Wm. Sons, 142 E. 33d
Hall, James T. & Co. Mohawk bldg. 160 Fifth
av c. 21st
Klee Bros. 202 E. 42d

KLEE BROTHERS, Modelers, Ornamental Stucco, Paper Mache and Com- position Work.

ARTIFIAL MARBLE.
202 EAST 42d STREET, NEW YORK.

McCloskey, Jos. 41 S. William
Manduit, L. 169 W. 25th
Morrison, J. & J. 235 E. 42d
Murphy, J. 396 Third av
Nielson, Wm. 1535-1537 Broadway
Plasterine Co. 412 W. 23d
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M. J. RYAN, Plain and Ornamental Plasterer, No. 829 ELEVENTH AVENUE, Between 56th and 57th Sts., NEW YORK.

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Walhausen, John H. A. 454 W. 41st

PLASTIC SLATE ROOFING.

Turton, Thomas, 83 Maiden la
THOMAS TURTON,
Improved Plastic-Slate Roofing,
No. 83 Maiden Lane,

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Rock Asphalt Roofs and Floors. Plastic-Slate Paint,
Coating and Cement. Tin Roofs Coated and Floors Made
Water-Tight. All Roofs Guaranteed. Telephone, 786
Cortlandt.

See Advertisement, page 73.

PLUMBERS' CHARCOAL FURNACES.

Bowsky, L. 843 Third av
Conran, Wm. F. 310 Pearl and 4 & 6 Peek st
(see add p. 496)
McShane, Henry, Mfg. Co. 625-627 Sixth av
(see add p. 108)
Sanitas Mfg. Co. 54 Gold

PLUMBERS, GAS AND STEAM FITTERS.

Abbott, M. Sons, 137 Eighth av
Agnes, G. 348 Fourth av
Ahrens, Charles, 1618 First av
Ahrens, Jacob J. 156th st. and Amsterdam av
Allman, Isaac F. 394 Greenwich
Altman, August, 181 Ave. B
Andrews, P. J. 1136 Third av
Andrews, Thomas C. 3493 Third av
Ash & Buckbee, 183 William
Austin Plumbing Co. 123 W. 128th
Axtmann, Chas. A. 176 E. 90th
Backer, Samuel, 87 Ludlow

SAM BACKER, PRACTICAL PLUMBER AND GAS FITTER,

SANITARY WORK A SPECIALTY.

87 Ludlow St.,

Bet. Grand and Broome Sts., NEW YORK.

Backus, Peter & Son, 135 W. 25th (see add p.
64)
Baerenklau, Gustav A. r 172 Forsyth
Baguley, Wm. 401 W. 46th
Bailey, John, 119 Leonard
Bailey, Thomas, W. 151st n Tenth av
Bailey, Wm. J. 792 Seventh av
Banks & Cuthbertson, 363 Ninth av
Banks, P. G. 838 Ninth av and 755 Tenth av
Bannon & Flanigan, 51 E. Houston
Barbig, E. F. 900 Third av
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Baron, M. 4 White
Barrett, C. T. 1 Burling st
Barrett, P. A. & Co. 469 W. 42d
Barrett & Dooling, 184 Front
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Barton, Egbert G. 233 Centre
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Brown, Louis, 201 E. 83d
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Bryan, Wm 165 W. 44th
Buchanan, John, 83 W. 54th
Buci, Peter, 183 Seventh
Bulmer, Alice, Mrs. 178 E. 112th
Bur, E. A. 33 Clinton pl
Burbridge & Brothers, 232 Eighth av
Burg, Chas. 100 W. 40th
Burgoyne & Steel, 118 Ninth av
Burk & McKeever, 34 W. 13th
Burke, Joseph M. 460 Willis av
Burns, William H. 345 W. 40th
Burton, T. H. 990 Sixth av
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Callahan, Francis, 78 Fourth av
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Cameron, Samuel, 730 Ninth
Campbell, Colin, 158 E. 45th
Campbell, Philip B. 187 E. 116th
Campbell, William, 45 Great Jones
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Carson, Charles, 201 36th
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Clark, William, 100 Ninth av
Clarke, William, 735 Tremont av
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Coffey, John F. 184 E. 119th
Cogan, Patrick, 107 E. 4th
Cohen & Maisel, 114 Division
Collins, James G. 358 E. 116th
Collyer, John, 325 Fourth av
Commerford, P. J. 398 E. Houston
Conlan Bros. 480 Willis av
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Coons & Bradbury, 208 E. 86th
Coons & Vieser, 206 E. 85th
Cooper & Metzler, 55 Orchard
Cooper, J. H. 886 Eighth av
Copman, Charles, 101 E. 17th
Coppers, Edward, 457 Pearl
Corcoran, M. F. 457 Pearl
Corey, Thos. F. 2219 First av
Costello, John F. 468 Seventh av
Coughlin & Young, 233 Thompson
Coyle, Patrick, 136 E. 31st
Coyle, W. & J. 1050 Park av
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Cummings, Richard, 385 Hudson and 2073 Seventh av
Cummins, Thomas J. 1035 Third av
Cunningham, Edward B. 2064 E. 77th
Cunnon Bros. 1176 Seventh av

Curran, James, 512 W. 36th
Curry & Schuck, 239 E. 88th
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Daly, J. A. & Co. 109 John
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Desmond, John, 20 New Chambers
Devine, Thomas, 154 Third av
Dewar, William H. 13 W. 100th
Dickinson, Patrick J. 607 Amsterdam av
Dickstein & Alpert, 80 Essex
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Dinan, F. H. 149 Madison
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 Donohue, Joseph H. 175 E. 81st
 Donovan Bros. 101 E. 79th
 Donovan, John E. 94½ Elm
 Doody, Christian J. 451 Columbus av
 Dooley, Peter, 399 Eighth av
 Dooling, John F. 184 Front
 Dorre, Richard, 9 Roosevelt
 Dougherty & Dunn, 148 Columbus av
 Douglass, George, 76 Morton
 Dowling, John J. 2165 Second av
 Doyle, Peter, 916 Ninth av
 Doyle, Thomas F. 163 Baxter
 Duffy, John E. 214 Tenth av
 Duffy, Joseph D. 150 E. 23d
 Duffy & McConnell, 87 Bleeker
 Duignan, P. J. 105th and Second av
 Dunn, George, II. 528 Pearl
 Dunn, John S. 189 E. 71st
 Dunn, M. E. 102 Fourth av
 Durand, Fred. 403 Willis av
 Durham House Drainage Co. 158-160 W. 27th
 Durie, David, jr. 1141 Ogden av. and 1921 Anthony av
 Dusenbury, George, 28 Church
 Dusenbury, William E. 86 Broad
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 Edgar, Robert, 429 Hudson
 Edmiston, H. M. 1370 Av. A
 Egan, S. I. 630 E. 138th
 Ehrhart, F. 28 St. Marks pl
 Eich, Philip, 1412 Second av
 Elcock, Henry, 325 W. Boulevard
 Elgar, John H. 402 W. 34th
 Elkan, E. 1402 Third av
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 Ellis, John, 157 E. 95th
 Ellison & Chambers, 2173 Seventh av
 Ellison, J. F. 110 W. 18th
 Emminger, Charles R. 934 Sixth av
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 Ennis, John W. 1524 Third av
 Erb, A. 1613 First av
 Erchoff, H. 633 E. 13th
 Erfurt, George, 418 W. 39th
 Ergenzinger, G. 415 E. 14th
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 Euvrard, L. J. 74 Spring
 Evans, Q. N. Construction Co. The, 43 Dey
 Evertsen, A. D. 639 E. 138th
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 Fabre, Paul, 101 W. 26th
 Fallon, Thomas F. 854 Seventh av
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 Flaumagan, Francis, 163 E. 54th
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 Flood, E. J. 232 Sixth av
 Flood, George W. 203 E. 62d
 Flynn, Thomas, 96 Columbus av
 Foeller, Ernest, 99 Chrystie
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 Frawley & Lyons, 965 Forest av

Frazer, C. & Co. 374 Eighth av
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 Frederick, Henry, 354 E. 54th
 Freely, Ann, 100 W. 15th
 Freyer, Rudolph, 47 Sheriff
 Friedenbergl, Charles, 99 Lewis
 Friedman, Louis, 34 Market
 Friedman, S. H. 1490 Second av
 Fritz & Hafner, St. Nicholas av. n W. 140th
 Fuchs, Otto G. 239 E. 42d
 Fuchslocher, Louis, 105 Stanton
 Fuller, James E. 515 Hudson
 Funk, Fred. 454 Ninth av
 Gaertner, Gustav, 207 E. 81st
 Galhaar, Henry, 371 Hudson
 Galligher, James, 409 E. 18th
 Gardiner, C. A. 21 Manhattan
 Garvey, Henry P. 502 W. 28th
 Garvey, Michael, 208 Elm
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 Genoy, M. 10 Park pl (see add p. 52)
 Geraty, Walter J. 1258 Third av

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 Gerlach, J. N. 697 Sixth av
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 Gerschoesser, H. 42 Delancy
 Gilbert, J. 155 E. 113th
 Gilbertson, John W. 23 Grand
 Gildea, P. H. 1746 Lexington av
 Gill, John H. 97 Mercer
 Gillen, John L. 97 Mercer
 Gillespie, Patrick, 629 Sixth av
 Gillie, Daniel R. 1808 Third av
 Gilligan, Thomas, 155 E. 110th
 Gillis & Geoghegan, 116-118 Wooster
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 Gilmore, Charles, 203 E. 102d
 Glas, Henry, 76 E. 3d
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 Gleeson, William J. 512 E. 14th
 Glover, D. 37 Dey
 Godwin, John P. 2466 Third av
 Goepfert, H. 745 Third av
 Goetz, George, 50 Greenwich
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 Goldblatt, L. 783 Eighth av
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 Gordian, Harris, 36 Ludlow
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 Gorman, J. J. 821 Seventh av
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 Guy, Joseph, 304 Mott and 19 Henry
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 Haab, William, 131 Eldridge
 Haagan, Franz, 430 Sixth av
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Helms, W. A. 2686¹/₂ Lexington av
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Henderson, S. J. 2511 Vanderbilt av W
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Holborow, E. B. 443 W. 50th
Holborow, Wm. J. 356 W. 24th
Hollenstein, Joseph, 1652 Second av
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Hopkins, Patrick A. 876 Sixth av
Hornbostel, A. 400 Madison av
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Yacht, Ship and House Plumbers,
Gas and Steam Fitters.

Manufacturers of Yacht and Ship Water Closets, Bilge, Tank, Deck, Basin and Liquor Pumps. Hand and Deep Sea Leads.

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Schaedel, Louis, 316 E. 6th
Schafer, Frank, 217 E. 4th
Scheer, Louis, W. 129th c. Lenox av
Schinnagel, John H. 173 William

JOHN H. SCHINNACEL,

PRACTICAL

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173 WILLIAM ST.,

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Schlageter, Jos. 401 First av
Schloss & McManus, 305 E. 77th
Schlueter, F. A. E. 141 E. 4th
Schmidt, Gustav, 403½ W. 14th
Schmidt, Henry & Son, 469 Broome
Schmidt, John, 54 Willet
Schmidt, Robert, 155 Third
Schmitt, H. 2944 Third av
Schmitt, R. jr. 142 E. 2d
Schneider, A. 37 Rivington
Schoen, Charles, 74 Allen
Schoen, Julius, 113 W. Broadway

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PLUMBER, STEAM, GAS and STOVE FITTER,
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Schroeder, John, 1300 Third av
Schulhose, Paul, 2141 Eighth av
Schuler, Chas. 15 Stuyvesant
Schultze, F. A. 58 W. 125th
Schulze, Theo. 175 Allen

Schwaikert, John, 642 E. 9th
Schwank, C. 302 W. 33d
Schwarz, Frederick, 129 E. 4th

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→***PLUMBER**,*←

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Schweppenhauser, George, 2530 Eighth av
Scott & Newman, 151 Ninth av
Seaman, Walter C. 339 E. 125th
Seaman, T. & Walter C. 343 W. 125th
Sears, H. E. 9 Ann
Secry, J. J. 105 W. 24th
Sehner, Wm. F. 249 Broome
Seidel & Galvin, 470 Hudson
Seidel, Jacob, 1337 Av. A
Seitz, Fred'k, 159 W. 27th
Seligman, S. 510 Sixth av
Seveke, Otto, 222 E. 46th
Sexton, Michael, 1112 Third av

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Sheahan, Cornelius F. 397 Ninth av

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Gas Fixtures at Manufacturers' Prices. Roofing attended to. Bath Tubs Lined.

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Sheehan, W. 220 Centre
Shepard, Geo. S. 678 Kingsbridge road
Sheridan, A. B. 502 W. 28th
Sheridan, J. F. 333 W. 52d
Sheridan, W. B. 156 E. 19th
Sheridan, Francis, 67 Centre
Sheridan, James F. 333 W. 52d
Shroft, Frank, 101 Prince
Shumway, I. O. 392 Fourth av
Sibley, James, 38 Oliver
Sieberg, Chas. 1224 Second av

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PLUMBER and ROOFER,

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Simms, Fred'k, 685 Third av
Simpson, Alexander, 200 E. 25th
Singer, S. 12 Av. B
Skinner, John G. 302 Canal
Small, Wm. P. 206 E. 80th
Small, J. U. 116 Bleecker
Smith, Albert R. 302 E. 55th

ALBERT R. SMITH,
Practical Plumber and Gas Fitter,

Furnaces, Ranges and Heaters Set, Cleaned and Repaired.

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Smith, C. 86 Ave. A.
Smith, E. C. 47 E. 41st
Smith, Emmet H. & Son, 513 Grand
Smith, F. G. 245 E. 41st
Smith, Geo. H. 354 W. 38th
Smith, Geo. & Bro. 446 E. 45th
Smith, John, 1571 Third av

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PRACTICAL PLUMBER AND GAS FITTER,

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Bet. 88th and 89th Sts., NEW YORK.

All work done on the most approved sanitary principles.

Smith, John B. & Son, 158 Maiden la
Smith, John J. 464 W. 35th
Smith, Michael, 61 Bleecker
Smith, N. A. 307 E. 55th
Smith, Phillip, 223 E. 74th
Smith, P. H. 550 Third av
Smith, T. H. 173 Greenwich
Smith, T. J. 22 Ann
Smith, & Bateman, 983 Park av
Smith & Dowling, 2 Rector
Smith & Roffler, 130 E. 86th
Smollon, Joseph J. 501 W. 40th

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Sewerage and Ventilation.

No. 501 WEST 40th STREET,

One Door below 10th Ave., NEW YORK.

Jobbing Promptly Attended to.

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Soles, Wm. A. 1727 Park av
Somerville, Geo. 73½ Varick
Spence, John, 9 and 2204 Seventh av
Staaks, F. H. 120th st. and Second av
Stadler, Henry A. 892 Third av
Starek, John C. 1225 Second av
Steeger, Edward, 9 First
Steele, Geo. 2590 Third av
Stein, P. 1156 Third av
Stein, Sexton & Co. 1207 Ninth av
Steuer, John, 70 Chrystie
Stevens, Chas. E. 54 Gold
Stewart, Geo. 1389 Broadway

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Sanitary Plumber, Gas and Steam Fitter,

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Between 37th & 38th Sts., NEW YORK.

Drainage and Ventilation a Specialty. Estimates cheerfully furnished on all work. Jobbing Properly and Carefully Attended to. Country Work a Specialty.

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Stolz, Geo. 2966 Third av
Storrs, Wm. H. 17th st. and Ninth av
Strauss, Chas. 158 Greene
Streitz, F. 100 Centre (see add p. 66)
Stroh, Louis H. 541 W. 50th

Sullivan, Timothy, 38 E. 20th
Sullivan & Gorman, 90 and 126 William
Swain, Thomas, 4 E. 17th
Sweeney, Michael A. 577 Grand

M. A. SWEENEY,

Steam and Hot Water Heating, Plumbing
and Gas Fitting Works,

577 Grand St., New York.

Engineers' Supplies constantly on hand.

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Furnaces and Ranges Cleaned and Repaired. Roofs
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Tansola, G. 348 E. 115th
Taylor, Edward, 545 Hudson
Taylor, Geo. Tenth av n W. 160th
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All work done on sanitary principles.
Offices and dwellings fitted up on reasonable terms.

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Plumbing, Gas and Steam Fitting

507 EIGHTH AVENUE,
Between 35th and 3th Sts., NEW YORK.

Furnaces, Heaters and Ranges Set, Cleaned and Repaired.
Roofing and Leader Work. Roofs Repaired and Painted.
All Kinds of Tin, Copper and Sheet Iron Work Done.
Stoves and Ranges.

Thanepaan, R. 124 W. Houston
Thatcher, James, 61 Centre
Thole, Lawrence A. 148 E. 19th
Thompson, David & Son, 369 Lenox av
Thompson, Matthew, 508 Canal
Thompson, Wm. 56 Sullivan
Tielsch, Frederick, 155 Forsyth
Tierney, A. & Son, 697 Park av
Tierney, A. 1054 Third av
Tischler, Samuel, 24 Cannon
Titus, Frank T. 255 E. 125th

Wm. H. Bennion. F. G. Titus.

BENNION & TITUS,

Practical Plumbers and Gas Fitters,

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Guaranteed. Jobbing Promptly Attended to.

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Tooher, Daniel, 1508 Ninth av

Toumey, John & Son, 132 E. 42d

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Contractors for Drainage, Ventilation and
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Townsend, Thomas C. 151 Fourth av
Treacy & Dougherty, 103 Amsterdam av
Treanor, Phillip, 129 W. 19th
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Tubridy, Wm. 167 E. 121st

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Tucker, W. J. 72 E. 150th
Tully, Jas. J. 103 W. 133d
Tuomey, Thomas J. 1238 Third av

T. J. TUOMEY,

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House Drainage and Sanitary Plumbing. Gas and Steam
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Plumbing in all its Branches Promptly Attended to. All
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Vandam & Fullerton, 209 Chrystie
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Van Time, Thomas H. 79 Sixth av
Van Wyck, Herbert, 201 E. 124th
Vaupel, William, 541 E. 16th
Verdon, Wm. jr. 2760 Eighth av
Veritzan, Geo. N. 223 Bowery
Vermilye, E. L. 201 W. 123d
Vezina, John, 183 Thompson
Victor, P. 112 John

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Furnaces and Ranges Set and Repaired. All orders promptly attended to.

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Vorbach, Henry, 233 E. 4th
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Wall, John J. 91 W. 134th
Wallace, James, 1376 Broadway
Wallace, Robt. 201 E. 58th
Wallace, Walter W. 845 Sixth av
Wallace, Wm. R. 244 E. 109th
Wallace & Drake, 1301 Third av
Walsh, Andrew J. 351 Park av
Walsh, C. A. 10 Forsyth
Walsh, Geo. M. & Co. 224 E. 59th
Walsh, John, 160 E. 42d
Walsh, Joseph J. 238 E. 59th
Walsh & Co. 464 Greenwich
Walsh & Powers, 1104 Lexington av
Walsh & Wertheim, 65 W. Houston
Walton, James, 176 E. 96th
Ward, William, 57 Centre

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PLUMBING AND GAS FITTING,

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Near Duane St., NEW YORK.

Stores, Public Buildings and Dwellings fitted up with all kinds of Water and Gas Fixtures. Licensed to put in Sewers. Personal attention given.

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Waring & Stantial, 1390 Third av
Warren, E. F. & Co. 336 W. 125th
Warwick, Alfred E. 2237 Second av
Waterbury, H. & Co. 2303 Eighth av

H. WATERBURY & CO.,
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Iron Workers,

2303 Eighth Ave., New York.

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Waterman, H. C. 448 Second av
Webb, W. W. 184 E. 116th
Webber, Edwin B. 894 W. Boulevard
Weber, Charles, 337 E. 47th
Weber, Gotlieb, E. 61st e First av
Weber, H. 351 E. 46th
Weil, W. 920 Ninth av
Weiss, L. 124 First av
Weissberg, M. 26 Norfolk
Wenzel, John, 432 E. 16th
Wenzel, W. J. 166 E. 110th
Werner, R. F. 1555 Second av
Werner, W. & Co. 494 Tenth av
West, Charles, 170 W. Broadway
Westfield, R. 478 Sixth av
Weyh, F. B. 682 E. 143d
Whealen, James & Bro. 3429 Third av
Wheelan, J. 2305 Eighth av

White, John J. 159 E. 110th
White, Thos. 141 E. 59th
Whittaker, J. K. 2155 Third av
Wiegand, Henry K. 346 Broome
Wieggers, John P. 1737 Lexington av
Wiesman, Chas. 41 Carmine
Willett, Joseph H. 876 Sixth av
Willett, Marinus, 215 William
Wilson, Geo. & Son, 178 Third av
Winter, J. 1023 First av
Wirman, Louis, 798 Third av

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PLUMBER, STEAM AND GAS FITTER,

Furnaces, Ranges and Heaters of all kinds Set,
Cleaned and Repaired. Roofs and Leaders
Repaired and Painted.

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Jobbing promptly attended to.

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Withers & Stuckey, 763 Third av
Wolf, Louis, 82 Ave. B
Worthington, C. R. 2186 Third av
Young, Chas. G. 323 Eighth av

CHARLES G. YOUNG,
PLUMBER, STEAM AND GAS FITTER,

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Jobbing promptly attended to.

Young, J. 2603 Eighth av
Young, William, 126 Thompson
Young, William, 57 Greenwich av
Young, William & Bro. 1022 Third av
Younger, Wm. 340 E. 11th
Zang, Henry, 167 Ludlow
Zimmerman, L. Ernest, 100 Ave. B
Zobelt, Richard, 3412 Third av

PLUMBERS', GAS AND
STEAM FITTERS'
TOOLS.

Armstrong Mfg. Co. 242 Canal
Blessing, Geo. A. 290 Pearl (see add p. 110)
Crook, Homer & Co. (pipe cleaning apparatus),
34 Dey
Curtis & Curtis, 74 Cortlandt
Eaton, Cole & Burnham Co. 82 and 84 Fulton
Knapp Mfg. Co. The, 22 and 24 Frankfort
McShane, Henry, Mfg. Co. 625-627 Sixth av (see
add p. 108)
Peek Bros. & Co. 47 Cliff
Roberts, Geo. I. & Bros. 471-473 Fourth av (see
add pp. 62, 63)
Sanitas Mfg. Co. 54 Gold
Walworth Mfg. Co. 54 Gold
Watertown Steam Boiler Co. The (soldering
iron heater), 54 Pine

PLUMBERS' MATERIALS AND SUPPLIES.

Adce, Fred. & Co. 90 Beekman (see add p. 109)
Alderdice, James S. & Co. 177 William
Aller, A. 109 Liberty
Aspinwall, Edwin, 98 Beekman
Beekman Salutory System Co. 56 Beekman (see
add opp. Plumbing Laws and Specifications)
Billings Pipe Bender Mfg. Co. 37 Barclay and
42 Park pl.
Blessing, Geo. A. 290 Pearl (see add p. 110)
Blum, Eugene, 106 Charles
Bonner & Van Court, 433-435 W. 42d
Bowsky, L. 843 Third av
Bronson Supply Co. The, 72 Beekman
Carr, A. & W. S. Co. 138 Centre
Cassidy & Adler, 490 Sixth av
Colwell Lead Co. 63 Centre, 524 Pearl and 681
Sixth av
Comty, James, 256 Pearl
Corning, Jasper, 240 Pearl
Creque Mfg. Co. 16 N. Y. and Brooklyn Bridge
Dane & Townsend Co. 76 John
Dimock, Fink & Co. 80 John and 214 E. 125th
Du Bois Mfg. Co. 245 Ninth av

DU BOIS MANUFACTURING CO., PLUMBERS' SUPPLIES, 245 NINTH AVENUE, NEW YORK.

See Advertisement, page 108.

Durham House Drainage Co. 158 W. 27th
Griffing, A. A. Iron Co. 15 Dey
Hadley, Chas. P. 284 Pearl
Harrison, Robt. C. 46 Cliff
Haydenville Mfg. Co. 73 Beekman
Hepe, Koven & Co. 18 Spruce
Hoffman, Chas. jr. 112 John
Huber, Henry, Co. 81 Beekman (see add p. 110)
Hussey, William H. 135 W. 30th
Hydromaze Mfg. Co. 417 W. 24th
Kimering & Souder, 179 Grand
Lipp, Louis & Co. 11 Barclay
Locke, Charles S. 106 W. 37th
Lowe & Brother, 263 W. 12th
McNab & Harlin Mfg. Co. 56 John
McShane, Henry, Mfg. Co. 625-627 Sixth av (see
add p. 108)
McShane, William, Co. 103 W. 37th
Maddock, Thomas & Sons, 51 Cliff
Matthews, Edward, 520 W. 22d
Mayor, Lane & Co. 42 Mott and 119 Walker
Meltzer, Michael, 55 Orchard
Meyer-Sniffen Co. Ltd. 48 Cliff
Miller & Coates, 279 Pearl
Monitor Iron Works, 78 Centre
Moore, Frederick G. 78 Beekman
Morrison, David, 55 W. 16th
Mott, J. L. Iron Works, 88 Beekman
Norton, H. Z. 205 E. 127th
Ogden, C. S. & Co. 52 Perry and 674 E. 159th
Peck Bros. & Co. 47 Cliff
Pettit & Co. 123 W. 38th
Read, Henry P. 277 Pearl

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Manufacturer and Dealer in

PLUMBERS' MATERIALS, Also Sanitary Plumbing,

No. 205 EAST 127th ST., NEW YORK.

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M. REYNOLDS,

Manufacturer of all Kinds of

Coleman's Pumps, Brass Work, Etc.

Dealers in all Kinds of Plumbers' Supplies.

25 & 27 Centre St., NEW YORK.

Roberts, George I. & Bros. 471-473 Fourth av
(see add pp. 62, 63)
Ronalds & Co. 54 Cliff
Rose, Clarence H. 242 Water
Sands, Alfred B. & Son, 134 Beekman
Sanitary Supply Co. World bldg.
Sanitas Mfg. Co. 54 Gold
Sexton, Michael, 1112 Third av
Simmons, John, Co. 110 Centre, 162 Leonard,
110 White and 64 Vestry (see add, opposite
Tenth Ward)
Smith, Benjamin C. 52 Cliff
Smith & Anthony Stove Co. 54 Gold
Sommer, B. & H. H. 156 W. Broadway
Steger, Henry, 143-145 E. 31st (see add p. 112)
Stern, Emil, 11 Barclay
Stevens, Charles Edward, 54 Gold
Stewart Ceramic Co. 312 Pearl (see add p. 4)
Sussuma, Louis B. 31 Baxter
Thompson, E. F. 284 Pearl
Thorn & Payne, 151 W. 29th
Trageser, John, 447-457 W. 26th (see add p.
111)
Tweedy, Edmund T. 32 Church
Union Supply Co. 161 E. 54th
Vanbenthuyssen, William H. 36 Gold
Wacelaer, Louis, 54 Beekman
Waldenburg, W. 118 Chambers
Williams & Co. 90 Ann
Wood, Andrew M. 387 Bowery

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Adce, Fred. & Co. 90 Beekman

FRED ADEE & CO.,

PLUMBERS' SUPPLIES,

No. 90 BEEKMAN STREET,

NEW YORK.

See Advertisement, page 109.

Ainslee, George H. 58 Warren
Allan, Andrew, 1 Desbrosses

American Radiator Co. 92 Centre, Judson A.
Goodrich, manager
Aspinwall, E. 98-100 Beekman
Baker, W. T. 125 Maiden la
Bartholomew, Fred. M. 84 Marion
Blakslee, E. G. Mfg. Co. 78 Centre
Blessing, George A. 290 Pearl

CEO. A. BLESSING & CO.,
PLUMBERS' MATERIALS
AND
SANITARY APPLIANCES,

290 PEARL STREET, NEW YORK.

See Advertisement, page 110.

Blewitt, James, 425 Seventh av
Blum, Eugene, 106 Charles
Bonner & Van Court, 433-435 W. 42d
Buel, Peter, 183 Seventh av
Buick & Sherwood, 44 Cliff
Burtis, Morse, 52 John
Carr, A. & W. S. Co. 138 Centre
Cassidy & Adler, 490 Sixth av
Clark, Minford S. 124 Baxter
Colwell Lead Co. 63 Centre
Conran, Wm. 310 Pearl and 4 & 6 Peck st (see
aid p. 496)
Cooke, R. K. 48 Centre
Corridon & Meyer, 89 Fourth av
Creque Mfg. Co. 16 New York and Brooklyn
bridge
Dalton & Ingersoll Co. 64 Gold
Dame & Townsend Co. 76 John
Davidson, M. 313 Av. A
Dimock, Fink & Co. 80 John and 214-216 E.
125th

DIMOCK, FINK & CO.,
Wrought and Cast Iron Pipe and Fittings.

Down-Town Store, **80 John Street,**

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Supplies for Plumbers, Steam and Gas Fitters, Engineers,
Mills, Factories, &c.

Douglass, John, Co. 245 Ninth av
DuBois Mfg. Co. 245 Ninth av (see add. p. 108)
Durham House Drainage Co. 158 W. 27th
Freeman, B. F. 44 Cliff
Gilbert & Barker Mfg. Co. 90 John
Gregory, William, 214 Front
Griffing, A. A. Iron Co. 106 Liberty
Harrison, Robert C. 46 Cliff
Haydenville Mfg. Co. 73 Beekman
Hepe, Koven & Co. 18 Spruce
Hoffman, Charles J. 112 John
Huber, Henry & Co. 81 Beekman

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HENRY HUBER COMPANY,
Manufacturers of
Boyle's Patent Pneumatic Water Closets.
Fine Lavatories, Porcelain-Lined Bath Tubs.
General Office & Warerooms, **81 Beekman St., N.Y.**

See Advertisement, page 110.

Hussey, W. H. 135 W. 30th

Hydromaze Mfg. Co. 417 W. 24th
Jamer, Jacob, 87 John
Kearney, Peter, 1458 Broadway
Keating, Edward F. 75 John
Kinerling & Sonder, 179 Grand
Knapp Mfg. Co. The, 22 Frankfort

THE KNAPP M'F'G CO.,
Nos. 22 and 24 Frankfort St., New York,
Manufacture Specialties in
Engineers', Railroad and Plumbers' Supplies,
And General Brass Work to Order.
Works, Foot of Sixth Street, Long Island City.

Krulich, J. 456-466 Cherry
Lang, August, 606 E. 15th
La Roza & Co. 41 Dey
Livingston, James, 205 E. 64th
McMann, T. R. & Bro. 60 Gold

T. R. McMANN & BRO.,
Wrought Iron Pipe & Fittings,
BRASS & IRON VALVES, COCKS,
Etc.
56, 58 & 60 Gold St., New York.
Jenkins' Valves (our Manufacture). Davis' Automatic
Air Valves. Special Attention Given to Diagram Work.
Twelve Inch Pipe and Smaller Cut to Order.

McNab & Harlin Mfg. Co. 56 John
McShane, Henry, Mfg. Co. 625-627 Sixth av

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OF BALTIMORE CITY.
Plumbers', Steam and Gas Fitters' Supplies.

N. Y. Branch, 625 & 627 Sixth Ave.
Telephone, 215 38th.

SANITARY SPECIALTIES.

See Advertisement, page 108.

McShane, William, 103 W. 37th
Maddock, Thomas & Sons, 51 Cliff
Mayor, Lane & Co. 119 Walker
Meyer-Sniffen Co. Ltd. 46-48 Cliff

THE
MEYER-SNIFFEN CO., L'T'D
Manufacturers of
Fine Plumbing Specialties
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and 1033 Walnut Street, Philadelphia, Pa.

Miller & Coates, 279 Pearl
Moody, Edwin A. 939 Sixth av
Moore, Fred. G. 78 Beekman
Morrison, David, 55 W. 16th
Mott, J. L. Iron Works, 88 Beekman
Mullaney, James & Son, 204 E. 23d
Ogden, C. S. & Co. 52 Ferry
Pancoast & Rogers, 28 Platt
Peck Bros. & Co. 47 Cliff
Pugh, Samuel & Son, 753 E. 11th
Read, Henry P. 277 Pearl
Regan, John, 153 Franklin and 245 Greenwich
Register, J. & Son, 83 Maiden la

Pneumatic Call Bells, Annunciators, Tubes, Etc.—Porous Terra Cotta for Roofing.

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Telephone, 1562 Cortlandt.

M. REYNOLDS,

Manufacturer of all kinds of

Coleman's Pumps, Brass Work, &c.

Dealer in all Plumbers' Supplies.

25 & 27 Centre Street,

Factory, Brooklyn, N. Y.,

NEW YORK.

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GEO. I. ROBERTS & BROS.,

INCORPORATED,

Plumbers', Gas and Steam Fitters' Supplies,

471 and 473 FOURTH AVENUE,

NEW YORK.

See Advertisement, pages 62, 63.

Rogers, B. J. 310-312 Third av

Ronalds & Co. 54 Cliff

Rose, Clarence H. 242 Water

Sands, Alfred B. & Son, 134 Beekman

Sanitary Supply Co. World bldg.

Sexton, M. 1112 Third av

Simmons, John, Co. 110 Centre (see add opposite Tenth Ward)

Sommer, B. & H. H. 5 N. Moore

Smith, Benjamin C. 52 Cliff

Smith & Anthony Stove Co. 54 Gold

Standard Pump Mfg. Co. 197 Grand

Stevens, Charles E. 54 Gold

Thompson, C. E. & Co. 69 Gold

Thorn & Payne, 151 W. 29th

Tweedy, E. T. 32 Church

Waelelaer, Louis, 54 Beekman

Williams & Co. 90 Ann

**PLUMBERS' SUPPLIES,
SOLID WHITE CROCKERY.**

Stewart Ceramic Co. 312 Pearl

STEWART CERAMIC CO.,

Solid White Stationary Wash Tubs, Sinks, &c.

No. 312 PEARL STREET,

Corner Peck Slip,

NEW YORK.

See Advertisement, page 4.

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ANNUNCIATORS,
TUBES, ETC.**

Badenhausen, J. H. 100 W. 46th

Bogart, Alfred L. 22 Union sq

Eingbigler & Adler, 432 Seventh av

Frescolin, S. W. World bldg.

Gooding, Beinert & Co. 80 John

Haggerty, George A. 803 Third av

G. A. HACCERTY,

803 Third Avenue, near 49th Street,

Electric Bells and Burglar Alarms Repaired.

Pneumatic Bell and Tubes put in. Batteries

Renewed. Jobbing Promptly Attended

to. Pneumatic Call Bells, An-

nunciator Tubes, &c.

See Advertisement, page 53.

Holmes Burglar Telegraph Co. 518 Broadway

Kanze, Robert, 103 E. 9th

Ostrander, W. R. & Co. 195 Fulton

Tucker Electrical Construction Co. 18 White-

hall

Zimdars & Hunt, 127 Fifth av

PNEUMATIC BELLS

—AND—

DESPATCH TUBES.

ZIMDARS & HUNT,

127 FIFTH AVENUE, NEW YORK.

**POROUS TERRA COTTA
FOR ROOFING.**

Colman, Chas. H. & Co. 145 Broadway (see add pp. 136, 137)

Conway, D. & Sons, 173 Broadway

Guastavino Fire Proof Construction Co. ft. W. 57th (see add opp. Part 3, Twelfth Ward)

Maurer, Henry & Son, 420 E. 23d (see add opp. inside back cover)

Meeker & Carter, 14 E. 23d

New, T. Mfg. Co. MacIntyre bldg. 874 B'dway

Person, Orrin D. Mohawk bldg. 160 Fifth av c 21st (see add p. 139)

Raritan Hollow & Porous Brick Co. MacIntyre bldg. 874 Broadway

Staten Island Terra Cotta Lumber Co. Equitable bldg. 120 Broadway (see add p. 130)

The Manhattan Fire Proof Co. MacIntyre bldg. 874 Broadway (see add p. 132)

The Tile Fire Proof Construction Co. Central bldg. 143 Liberty

The Van Fire Proofing Co. Albert Von den Driesch, 92-94 Liberty (see add opp. back inside cover)

Thomas, E. H. 173 Broadway

Union Terra Cotta Lumber Co. 287 Broadway

PORTLAND CEMENT.

Alsen's Portland Cement (Sinclair & Babson) Central bldg. 143 Liberty

ALSEN'S PORTLAND CEMENT WORKS,

MANUFACTURERS OF

PORTLAND CEMENT

(SINCLAIR & BABSON,)

Central Building, Liberty & West St.

See Advertisement, page 121.

Baetjer & Meyerstein, 5 Dey
 Brand, James, 81 Fulton
 Brooks, Shoobridge & Co. 7 Bowling green
 Dickinson Brothers & King, 21-24 State
 Fisher, Erskine W. Welles bldg. 18 Broadway
 (see add p. 117)
 Fleming Cement & Brick Co. 23 Liberty
 Hammill & Gillespie, 240 Front
 Johnson & Wilson, 45 Broadway
 Kanter, Emil, 126 Liberty

Stettin-Gristow Portland Cement.

Official test for tensile strength: 7 days **654 POUNDS** to the square inch.

This celebrated Cement is of excellent quality, color, extraordinary strength and fineness, and is without exception superior to any other Portland Cement manufactured. It is acknowledged by all who have used it to be the best and most reliable Portland Cement in existence, which accounts for its unparalleled success here and in Europe.

EMIL KANTER,

Sole Agent For the United States,

126 LIBERTY ST., N. Y.

Malone, Frank, Times bldg. 41 Park row
 Marcial & Co. 36 Broadway
 Marquardt, H. & Co. 21 South William
 Noe, George T. Equitable bldg. 120 Broadway
 Norton, F. O. Cement Co. 2 Wall
 Sinclair & Babson, Central bldg. 143 Liberty
 (see add p. 121)
 Snyder, Hiram, Rosendale Hydraulic Cement
 Co. 229 Broadway (see add p. 119)
 Spence, Charles H. Equitable bldg. 120 B'way
 Stevens, Charles J. 7 Bowling green
 Thiele, Emile, 78 William (see add p. 117)
 Tomkins, Calvin, 150 Broadway (see add p. 140)
 Weeks, Charles R. & Bro. 74 Murray

PORTLAND, ROMAN AND KEENE'S CEMENT.

Fisher, Erskine W. Welles bldg, 18 Broadway
 (see add p. 117)
 Fleming Cement & Brick Co. 23 Liberty
 Hammill & Gillespie, 240 Front

POTTERIES, PLUMBERS' SUPPLIES.

Alpaugh & Magowan, 55 Fulton
 Boss, Anton, 522 E. 134th
 Burroughs & Montford, 46 Murray
 Carr, James, 440 W. 13th
 E. Trenton Pottery Co. 59 Park pl
 Faience Mfg. Co. 56 Murray
 Forester, W. 25 Murray
 Freese, Harry G. 55 Park pl
 Henacker, John E. 59 Park pl

Goodwin Bros. 55 Park pl
 International Pottery Co. 53 Park pl
 Lauferweller, Francis, 517 W. 27th
 McShane, Henry, Mfg. Co. 625-627 Sixth av
 (see add. p. 108)
 McNicol, D. E. Pottery Co. 53 Park pl
 Moses, John, 48 Murray
 Owens, J. B. & Co. 13 Barclay
 Parmelee, Frank S. 24 Park pl
 Robitsek, David, E. 152d n Robbins av
 South Amboy Pottery Co. 38 Peck st
 Stewart Ceramic Co. 312 Pearl

STEWART CERAMIC CO.,

Solid, White Stationary Wash Tubs, Sinks, &c.

No. 312 PEARL STREET,

Corner Peck Slip,

NEW YORK.

See Advertisement, page 4.

The Beckman Salutory System Co. 56 Beckman (see add opp. Plumbing Laws and Specifications)

POULTRY NETTINGS.

De Witt Wire Cloth Co. 32 Reade

DE WITT WIRE CLOTH CO.,

Manufacturers of

Brass and Copper Wire Cloth, &c.,

32 Reade Street, New York.

703 Market St., Philadelphia, Pa.

See Advertisement, page 26.

Estey, W. S. 65 Fulton (see add p. 24)
 Howard & Morse, 45 Fulton (see add p. 5)

POWDER MFRS.

Am. Forcite Powder Mfg. Co. 1 Broadway
 American Mfg. & Supply, 55 Broadway
 Am. Wood Powder Co. 59 Wall
 Atlantic Dynamite Co. 245 Broadway
 Bodkin, Martin R. & Son, 55 Broadway
 Climax Fuse Co. 35 Broadway
 Columbia Powder Mfg. Co. 280 Broadway
 Dupont, E. I. De Nemours & Co. 32 Pine
 Excelsior Dynamite Co. 45 Broadway
 Hamlin, George F. 239 Broadway
 Hazard Powder Co. 63 Pine
 Hecla Powder Co. 239 Broadway
 Howell, William P. 205 Front
 Independent Dynamite Co. 24 Park pl and 19 Barclay
 Laffin & Rand Powder Co. 29 Murray
 Metallic Cap Mfg. Co. 35 Broadway
 N. Y. Powder Co. 60 Liberty
 Phoenix Powder Mfg. Co. 280 Broadway
 Rand Drill Co. 23 Park pl (see add p. 3)

Rendrock Powder Co. 23 Park pl

RENDROCK POWDER CO.,

"RACKAROCK,"

THE ONLY SAFE HIGH EXPLOSIVE.

**NO. 23 PARK PLACE,
NEW YORK.**

See Advertisement, page 3.

Repauno Chemical Co. 239 Broadway
Small & Schrader, 245 Broadway
Standard Explosive Co. 239 Broadway
U. S. Dynamite Co. 38 Platt

**PRESSURE REGULATORS,
STEAM AND WATER.**

Acton, John, 193 Worth
Aller, A. 109 Liberty
Blake & Williams, 197 Wooster (see add pp. 42, 65)
Boltons, G. & J. R. Imp. Hot Water Heater, 114 Liberty, Geo. H. Raymond, mgr. (see add p. 69)
Donegan & Swift, 11 Murray
Kieley, Timothy, 11 W. 13th
Pollock, Alexander, 15 Cortlandt
Roberts, Geo. I. & Bros. 471-473 Fourth av (see add pp. 62, 63)

PRINTERS' JOINER.

McAfee, Robert, 62 Ann

**ROBERT McAFEE,
PRINTERS' JOINER,
62 ANN STREET, NEW YORK.**

Pine and Basswood for Engravers. Blocking and Mortising Electrotypes, Cutting Sticks, Cutting Boards, Press Boards and Gilding Boards. Boxes for Electrotypes and all kinds of Wood Work for Printers, Type Founders, Book Binders and Electrotypes.

**PULLEYS, HANGERS AND
ALL KINDS OF MINING
GEAR.**

Brown, A. & F. 17 Dey
Dill, J. T. 117 Walker

**J. T. DILL,
MACHINIST,**

Pulleys, Hangers and all Kinds of Running Gear my Specialties.

117 Walker Street, NEW YORK.

PUMPING ENGINES.

Beggs, James & Co. 9 Dey
Blake, Geo. F. Mfg. Co. 95 Liberty
Cameron, A. S. 433 E. 23d
Davidson Steam Pump Co. 77 Liberty (see add opp. p. 327)
Deane Steam Pump Co. 72 Cortlandt
Deely, Robert & Co. ft. W. 32d
DeLamater Iron Works, The, 21 Cortlandt (see add p. 57)
Eastwood, Benj. 112 Liberty
Edward, Joseph & Co. 414 Water
Gordon Steam Pump Co. The, 98 Liberty
Hall Steam Pump Co. 91 Liberty
Holly Mfg. Co. The, 45 Broadway
Inbbard, Norman, 93 Pearl, Brooklyn

NORMAN HUBBARD,

Manufacturer of

NIAGARA STEAM PUMP,

For Every Possible Duty.

THE PACKARD VACUUM PUMPS.

93 to 97 Pearl St., Brooklyn.

See Advertisement, page 55.

Knowles Steam Pump Works. 93 Liberty
Pollock, Alexander, 15 Cortlandt
Pulsometer Steam Pump Co. 120 Liberty

THE PULSOMETER,

BEST AND CHEAPEST

WATER ELEVATOR

Known for Irrigation and all Purposes.

Office, 120 Liberty St., New York.

See Advertisement, page 54.

Rider Engine Co. 37 Dey
Sayer & Co. 37 Dey
Smith & Vaile, 112 Liberty (see add p. 56)
Snow Steam Pump Works, 116 Liberty
Worthington, Henry R. (Firm of) 88 Liberty
Worthington Pumping Engine Co. 145 B'dway

**PUMPING MACHINERY
MFRS.**

Beggs, James & Co. 9 Dey
Blake, George F. Mfg. Co. 95-97 Liberty
Davidson, M. T. 77 Liberty (see add opposite p. 327)
Deane Steam Pump Co. 72 Cortlandt
DeLamater Iron Works, 21 Cortlandt (see add p. 57)
Gleason & Bailey Mfg. Co. Ltd. 187-189 Mercer
Hall Steam Pump Co. 91 Liberty
Holly Mfg. Co. 45 Broadway
Hubbard, Norman, 93 Pearl st. Brooklyn (see add p. 55)
Knowles Steam Pump Works, 93 Liberty
Pulsometer Steam Pump Co. 120 Liberty (see add p. 54)
Smith & Vaile Co. 112 Liberty (see add p. 56)
Worthington, Henry R. 86-88 Liberty

PUMPS.

Andrews, William D. & Bro. (siphon and centrifugal) 223 Broadway
 Ashcroft Mfg. Co. (boiler) 111 Liberty
 Austin, W. P. 123 W. 38th
 Barr Pumping Engine Co. C. H. Tucker, jr. & Bro., agents, 126 Liberty
 Beggs, James & Co. 9 Dey
 Blake, George F. Mfg. Co. 95-97 Liberty
 Birmingham Iron Foundry (hydraulic) 95 Liberty
 Buffalo Steam Pump Co. 76 John
 Colwell Lead Co. 63 Centre
 Corcoran, Andrew J. 76 John (see add p. 79)
 Craft, Jessie, 260 Front
 Danphin, William (steam) 10 Reade
 Davidson, M. T. (steam) 77 Liberty
 Deane Steam Pump Co. 72 Cortlandt
 Deeming Co. The 72 John
 DeLamater Iron Works, 21 Cortlandt (see add p. 57)
 Douglas, W. & B. (house force cistern) 85-87 John
 Edwards, Joseph & Co. (centrifugal) 412-416 Water
 Ferguson, W. B. & Son, 226 South
 George, E. & Co. (yacht) 82 South
 Gleason & Bailey Mfg. Co. (brass and iron, hand and power) 187-189 Mercer
 Goulds Mfg. Co. 16 Murray
 Gray, Robert J. Park av. and 31st
 Gregory, James, jr. (force) 106 Cannon
 Hall Steam Pump Co. 91 Liberty
 Hanson, Thomas (force) 174 Centre
 Hubbard, Norman, 93 Pearl st. Brooklyn (see add p. 55)
 Huber, Henry & Co. (brass) 81 Beekman (see add p. 110)
 Kelley, Benjamin F. & Son (power) 91 Liberty (see add p. 61)
 Knowles Steam Pump Works, 93 Liberty
 Leugs, John S. Son & Co. (siphon) 4 Fletcher
 McShane, Henry, Mfg. Co. 625-627 Sixth av (see add p. 108)
 Morrison, David (lift and force) 55 W. 16th
 N. Y. Kerosene Gas Light Co. (hydraulic air) 261 Pearl
 Pollock, Alexander, 15 Cortlandt
 Pnsometer Steam Pump Co. 120 Liberty (see add p. 54)
 Reynolds, M. & Co. (lift and force) 25 Centre
 Rider, Thomas J. (steam) ft. W. 13th
 Roberts, George I. & Bros. 471-473 Fourth av (see add pp. 62, 63)
 Ronalds & Co. (force and lift) 54 Cliff
 Rumsey & Co. Ltd. 107 Liberty
 Sands, Alfred B. & Son (yacht) 134 Beekman
 Sands Bros. (lift, force and air) 6 Reade
 Sayer & Co. 37 Dey
 Silsby Mfg. Co. (rotary) 51 John
 Silver & Deming Mfg. Co. 72 John
 Smith & Vaile Co. 112 Liberty (see add p. 56)
 Snelling, J. H. (ship) 158 South
 Snow Steam Pump Works, J. Brotherhood, agent, 116 Liberty
 Standard Pump Mfg. Co. (hydraulic and air) 143 Grand
 Union Mfg. Co. 103 Chambers
 United States Supply Co. Ltd. 51 John
 Waefelaer, Louis, 54 Beekman

Watson & Stillman (hydraulic for presses) 204-210 E. 43d (see add opp. p. 326)
 Welch & Lawson (gas pumping) 203-205 Centre
 Wells Engine Co. 91 Liberty
 Wenterbauer, Louis, 153-155 Canal
 Woodward Steam Pump Co. (steam) 10 Reade
 Worthington, Henry R. 145 Broadway and 86-88 Liberty

PUMPS, DUPLEX STEAM.

Backus, Peter & Son, 133-135 W. 25th (see add p. 64)
 Barr Pumping Engine Co. 126 Liberty
 Blake, George F. Mfg. Co. 95-97 Liberty
 Buffalo Steam Pump Co. 76 John
 Cameron, A. S. Steam Pump Works, 433 E. 23d
 Davidson, M. T. 77 Liberty (see add p. 327)
 Deane Steam Pump Co. The, Ed. H. Dockam, manager, 72 Cortlandt
 Hall Steam Pump Co. 91 Liberty
 Knowles Imp. Pumping Machinery, 93 Liberty
 Roberts, George I. & Bros. 471-473 Fourth av (see add pp. 62, 63)
 Smith & Vaile Co. 112 Liberty

THE NEW YORK HOUSE OF
THE SMITH & VAILE COMPANY,
 BUILDERS OF
Steam Pumping Machinery and Filter Presses,
 112 Liberty Street, New York.
 Steam Pumps, Duplex Single & Compound. Hydraulic Machinery. Water Works Pumping Engines.
 J. M. DUNCAN, Manager.

Snow Steam Pump Works, The, J. Brotherhood, agent, 116 Liberty
 Tucker, C. H. jr. & Bro. 126 Liberty

PUMP, FORCE.

American Fire Engine Co. 51 John
 Bishop & Babcock Co. 152 Centre
 Blessing, Geo. A. 290 Pearl (see add p. 64)
 Burdell, Chas. E. 9 W. Broadway
 Corcoran, Andrew J. 76 John (see add p. 79)
 Deeming Co. 72 John
 Douglas, W. & B. 85 John
 Economie Boiler & Tank Feed Pump, 91 Liberty
 Gleason & Bailey Mfg. Co. Ltd. 187 Mercer
 Goulds Mfg. Co. 16 Murray
 Gregory, James, jr. 106 Cannon
 Heerdegen & Schnee, 46 Exchange pl
 Housen, Thomas, 174 Centre
 Huber, Henry, Co. 81 Beekman (see add p. 110)
 Humphrey, James E. 103 Chambers
 Hydro-Pneumatic Pump Co. 101 Walker
 Kelley, Benj. F. & Son, 91 Liberty (see add p. 61)
 Leonard & McCoy, 118 Liberty
 McShane, Henry, Mfg. Co. 625-627 Sixth av (see add p. 108)
 Morrison, David, 55 W. 16th
 Roberts, Geo. I. & Bro. 471-473 Fourth av (see add pp. 62, 63)

Pumps, Pressure.—Pumps, Pulsometer.—Pumps, Steam.—Pumps, Steam and Centrifugal.

Ronalds & Co. 54 Cliff
 Rumsey & Co. Ltd. 107 Liberty and 156 South
 Sands Bros. 6 Reade
 Silsby Mfg. Co. 51 John
 Standard Pump Mfg. Co. 197 Grand
 U. S. Supply Co. Ltd. 51 John

PUMPS, POWER.

Blackall, F. S. 126 Liberty

F. S. BLACKALL,

Sole Agent for
 New York City and Vicinity,

Crocker-Wheeler Electric Co.,
 No. 126 LIBERTY STREET,
 NEW YORK.

Barr Pumping Engine Co. C. H. Tucker, jr. &
 Bro. agts. 126 Liberty
 Blake, Geo. F. Mfg. Co. 95-97 Liberty
 Buffalo Steam Pump Co. 76 John
 Corcoran, Andrew J. 76 John (see add p. 79)
 Deane Steam Pump Co. The, 72 Cortlandt
 Gleason & Bailey Mfg. Co. Ltd. 187-189 Mereer
 Hall Steam Pump Co. 91 Liberty
 Kelley, Benjamin F. & Son, 91 Liberty (see add
 p. 61)
 Knowles Steam Pump Works, 93 Liberty
 Tucker, C. H. jr. & Bro. 126 Liberty
 Worthington, Henry R. 86-88 Liberty

PUMPS, PRESSURE.

Barr Pumping Engine Co. C. H. Tucker, jr. &
 Bro. agts. 126 Liberty
 Blake, Geo. F. Mfg. Co. 95-97 Liberty
 Buffalo Steam Pump Co. 76 John
 Davidson, M. T. 77 Liberty
 Deane Steam Pump Co. The, 72 Cortlandt
 Hall Steam Pump Co. 91 Liberty
 Knowles Steam Pump Works, 93 Liberty
 Smith & Vaile Co. 112 Liberty (see add p. 56)
 Snow Steam Pump Works, J. Brotherhood,
 agt. 116 Liberty
 Worthington, Henry R. 86-88 Liberty

PUMPS, PULSOMETER.

Pulsometer Steam Pump Co. 120 Liberty (see
 add p. 54)

PUMPS, STEAM.

Allen, Chas. G. 34 Dey
 Baekus, Peter & Son, 133-135 W. 25th (see add
 p. 64)

Barr Pumping Engine Co. C. H. Tucker, jr. &
 Bro. agts. 126 Liberty
 Blake, George F. Mfg. Co. 95-97 Liberty
 Buffalo Steam Pump Co. 76 John
 Bullock, S. R. 45 Broadway
 Burdick Mfg. Co. 94 Liberty
 Cameron, A. S. Steam Pump Works, 433 E. 23d
 Carr, A. & W. S. Co. 138 Centre
 Clayton Air Compressor Works (miniug), 43
 Dey
 Craft, Jessie (centrifugal), 260 Front
 Dauphin, William, 10 Reade
 Davidson, M. T. 77 Liberty
 Deane Steam Pump Co. The, 72 Cortlandt
 De Lamater Iron Works, 21 Cortlandt (see add
 p. 57)
 Donegan & Swift, 11 Murray
 Eastwood, Benjamin, 112 Liberty
 Edwards, Jos. & Co. 412-416 Water
 Gordon Steam Pump Co. 98 Liberty
 Gray, Robert J. Park av and 131st
 Hall Steam Pump Co. 91 Liberty
 Holly Mfg. Co. 45 Broadway
 Hubbard, Norman, 93-97 Pearl st. Brooklyn
 (see add p. 55)
 Knowles Steam Pump Works, 93 Liberty
 Leonard & McCoy, 118 Liberty
 Pulsometer Steam Pump Co. 120 Liberty (see
 add p. 54)
 Rider, Thomas J. ft. W. 13th
 Roberts, George I. & Bros. 471-473 Fourth av
 (see add pp. 62, 63)
 Safety Electric Construction Co. 143 Elm
 Smith & Vaile Co. The, 112 Liberty (see add p.
 56)
 Silsby Mfg. Co. 51 John
 Snow Steam Pump Works, J. Brotherhood agt.
 116 Liberty
 Tucker, C. H. jr. & Bro. 126 Liberty
 Wells Engine Co. 91 Liberty
 Woodward Steam Pump Co. 10 Reade
 Worthington Henry R. 86-88 Liberty

PUMPS, STEAM AND CENTRIFUGAL.

Craft, Jessie, 260 Front
 Donegan & Swift, 11 Murray
 Edwards, Joseph & Co. 412-416 Water

PUMPS, VACUUM.

Aller, A. 109 Liberty
 Barr Pumping Engine Co. C. H. Tucker, jr. &
 Bro. agts. 126 Liberty
 Blake, George F. Mfg. Co. 95-97 Liberty
 Davidson, M. T. 77 Liberty
 Deane Steam Pump Co. The, 72 Cortlandt
 Hall Steam Pump Co. 91 Liberty
 Hubbard, Norman, 93-97 Pearl st. Brooklyn (see
 add p. 55)
 Knowles Steam Pump Works, 93 Liberty
 Tucker, C. H. jr. & Bro. 126 Liberty
 Worthington, Henry R. 86-88 Liberty

Pure Copper Wire Cloth.—Putty Manufacturers.—Quarrying Machinery.—Quarrying Supplies.—Radiators, Artistic.

PURCHASERS OF OLD METAL.

N. Y. Smelting & Refining Co. cor. Jane & West (see add p. 532)

PURE COPPER WIRE CLOTH.

DeWitt Wire Cloth Co. 32 Reade

DE WITT WIRE CLOTH CO.,

Manufacturers of

Brass and Copper Wire Cloth, &c.,

32 Reade Street, New York.

703 Market St., Philadelphia, Pa.

See Advertisement, page 26.

PUTTY MFRS.

Belknap's, E. S. Son, 8 Gold

Boyd, Wm. 541 W. 22d

Budd, John J. 149 Bank

Chilton Mfg. Co. 147 Fulton

Devoe, F. W. & Co. 103 Fulton (see add p. 90)

Koster, John N. 607 W. 39th

Reynolds C. T. & Co. 106 Fulton

Swartz, E. H. 23 Av. A (see add p. 106)

Tiemann, Daniel F. & Co. 44 W. Broadway

Tueker, W. G. 116th & E. R.

QUARRYING MACHINERY.

American Diamond Rock Boring Co. 15 Cortlandt

Clayton Air Compressor Works, 43 Dey

Copeland & Bacon, 89 Liberty

Edison General Electric Co. (drills) 16 Broad

Ingersoll-Sergeant Drill Co. The, 10 Park pl

Lidgerwood Mfg. Co. 96 Liberty (see add front inside cover)

McBain, Thomas A. (tools) 640 W. 38th

Pollock, Alexander, 15 Cortlandt

Rand Drill Co. 23 Park pl (see add p. 3)

Young-Brennan Crusher Co. (stone and ore crushers) 42 Cortlandt

QUARRYING SUPPLIES.

Copeland & Bacon, 89 Liberty

Pollock, Alexander, 15 Cortlandt

Rand Drill Co. 23 Park pl (see add p. 3)

RADIATORS, ARTISTIC.

American Radiator Co. Judson A. Goodrich, manager, 92 Centre

Blackmore Heating Co. 88 John (see add p. 66)

Boltons, G. & J. R. Imp. Hot Water Heater, Geo. H. Raymond, manager, 114 Liberty (see add p. 69)

Dame & Townsend Co. 76 John

Detroit Heating & Lighting Co. 126 Liberty (see add p. 144)

Eaton, Cole & Burnham, 82 Fulton

Gessert, C. F. Co. 42 Dey

HEATING APPLIANCES.

C. F. GESSERT COMPANY,

42 Dey Street, New York.

RADIATORS:

PIERCE, PERFECTION, DETROIT.

Long Distance Telephone, 1848 Cortlandt.

Griffing, A. A. Iron Co. 15 Dey

Gurney Hot Water Heater Co. 71 John

Johnson & Co. 71 John

Nason Mfg. Co. 71 Beekman

Roberts, Geo. I. & Bros. 471-473 Fourth av (see add pp. 62, 63)

Smith, H. B. Co. The, 137 Centre

Titusville Radiator Co. (Ltd.) 64 Wall (see add p. 66)

Walworth Mfg. Co. 54 Gold

RADIATORS, HOT WATER.

American Radiator Co., Judson A. Goodrich, manager, 92 Centre

Backus, Peter & Son, 133-135 W. 25th (see add p. 64)

Blackmore Heating Co. 88 John (see add p. 66)

Blake & Williams, 197 Wooster (see add p. 65)

Boltons, G. & J. R. Imp. Hot Water Heater, Geo. H. Raymond, manager, 114 Liberty (see add p. 69)

Detroit Heating & Lighting Co. 126 Liberty (see add p. 144)

Duplex Steam Heating Co. 136 Bethune & 136 Liberty

Eaton, Cole & Burnham, 82 Fulton

Gessert, C. F. Co. 42 Dey

Griffing, A. A. Iron Co. 15 Dey

Gurney Hot Water Heater Co. 71 John

Johnson & Co. 71 John

Munsell, Eugene & Co. 218 Water

Nason Mfg. Co. 71 Beekman

Ramson & Co. 9-11 Franklin

Roberts, Geo. I. & Bros. 471-473 Fourth av (see add pp. 62, 63)

Rutzler, Enoch, 178-180 Centre

Radiator Guards.]

Radiator Valves.—Railings, Brass, Bronze and Iron Work.—Railroad Ties and Lumber.

Simmons, John, 110 Centre (see add opposite Tenth Ward)
Smith, H. B. Co. The, 137 Centre
Titusville Radiator Co. 64 Wall

Titusville Radiator Co., Limited.

Sole Manufacturers of

Imported Flue Radiators for Steam & Hot Water

Main Office Works, TITUSVILLE, Pa.

New York Office, 64 WALL STREET.

See Advertisement, page 66.

Trask & Carmichael, 80 Centre

RADIATOR GUARDS.

Gessert, C. F. Co. 42 Dey
Howard & Morse, 145 Fulton (see add p. 5)

RADIATOR VALVES.

Backus, Peter & Son, 133-135 W. 25th (see add p. 64)
Blackmore Heating Co. 88 John (see add p. 66)
Boltons, G. & J. R. Imp. Hot Water Heater, 114 Liberty, Geo. H. Raymond, Mgr. (see add p. 69)
Eaton, Cole & Burnham, 82 Falton
Gessert, C. F. Co. 42 Dey
Griffing, A. A. Iron Co. 15 Dey
Jenkins Bros. 71 John
Kennedy, D. 52 Cliff
McShane, Henry, Mfg. Co. 625-627 First av (see add p. 108)
Roberts, Geo. I. & Bros. 471-473 Fourth av (see add pp. 62, 63)

RAILINGS, BRASS, BRONZE AND IRON WORK.

Carrere & Haas Iron Works, Lincoln bldg, 1-3 Union sq, cor. 14th
Cheney & Preyer, 21 Park row (see add opp. Fifth Ward)
Cornell, J. B. & J. M. 141 Centre, W. 26th st, Tenth & Eleventh avs (see add pp. 35, 37, 39)
Diamond, J. G. & T. 209-211 W. 33d
Empire Metal Working Co. 76 Fifth av
Estey, W. S. 65 Fulton (see add p. 24)
Goulds, M. Son & Co. 105 Duane
Hecla Architectural Bronze and Iron Works, Poulson & Eger, Pulitzer bldg. show rooms 48-51 (see add p. 28)
Howard & Morse, 45 Fulton (see add p. 5)
Jackson Architectural Iron Works, 315 E. 28th (see add p. 31)

517 [Railway, Park & Highway Bridges.

Luetke, Osear, 662-668 Hudson (see add opp. Ninth Ward)
Lyon, W. E. 202 E. 46th (see add p. 46)
Manhattan Brass Co. 28th and First av
Muhl, J. & Son, 329 E. 33d (see add p. 50)
Pitt, W. R. Composite Iron Works, 83 Reade
Prince & Kinkel Iron Works, The, 729-731 First av (see add p. 51)
Richey, Brown & Donald, 218-224 N. Eleventh, 20-22 Roebling, Brooklyn (see add p. 47)
Stuetzer, H. & Co. 474-494 Leonard, 49-61 Van Pelt av, Brooklyn, 39 Dey, N. Y. City (see add p. 40)
Wagner, J. 372 Seventh av
Westervelt, A. B. & W. T. 102 Chambers (see add p. 203)

RAILROAD TIES AND LUMBER.

Roberts & Case, 62 Broadway
Vanderbilt & Hopkins, 120 Liberty

RAILWAY, PARK AND HIGHWAY BRIDGES.

Cofrode & Saylor, Central bldg, 143 Liberty
Cornell, J. B. & J. M. 141 Centre, W. 26th & Tenth & Eleventh av (see add pp. 35, 37, 39)
Dean & Westbrook, 136 Liberty
Elmira Bridge Co. (Ltd.) 18 Broadway
Jackson Arch. Iron Works, 315 E. 28th (see add p. 31)
Keystone Bridge Co. 46 Wall
King Iron Bridge and Mfg. Co. 18 Broadway
Levering & Garrigues, 41 Pulitzer bldg.
Lyon, W. E. 202 E. 46th (see add p. 46)
Mosley Iron Bridge & Roof Co. 5-7 Dey (see add p. 49)
New Jersey Steel & Iron Co. 17 Burling sl
New York & New Jersey Bridge Co. 80 Broadway & 207 W. 54th
Passaic Rolling Mill Co. Aldrich Court bldg. 45 Broadway
Pencoyd Bridge & Construction Co. Corbin bldg. 192 Broadway
Phoenix Bridge Co. 45 William
Pittsburgh Bridge Co. 41 Pulitzer bldg.
Riverside Bridge & Iron Works, Wells bldg. 18 Broadway
Staats, R. P. & J. H. Columbia bldg. 29 Broadway
Union Bridge Co. Washington bldg. 1 Broadway
Whitney, A. R. & Co. Columbia bldg. 29 Broadway
Wrought Iron Bridge Co. 136 Liberty

RANGE BOILERS, PLUMBERS' SUPPLIES.

Blessing, Geo. A. 290 Pearl (see add p. 110)
Dalton, Ingersoll Co. The, 64 Gold
Fearing, W. S. 100 Chambers
Hepe, Koven & Co. 18 Spruce
Iron-Clad Mfg. Co. 22-24 Cliff
Jochum & Jetter, 148 E. 50th (see add p. 60)
McShane, Henry, Mfg. Co. 625-627 Sixth av
(see add p. 108)
Randolph & Clowes, 131 Worth
Ronalds & Co. 54 Cliff
Steeger, Henry, 143-145 E. 31st (see add p. 112)
Trageser, John, Steam Copper Works, 447-457 W. 26th; branch store 35 Ferry (see add p. 111)

RANGES AND FURNACES.

Abendroth Bros. 109-111 Beekman
Barstow Stove Co. 228 Water
Beebe Ranges & Furnaces, 110-116 Beekman
Boynton Furnace Co. The, 207-211 Water
Brady, Phillip & Co. 863 Sixth av
Bramhall, Deane & Co. 264-266 Water
Burrows, C. M. 106-108 Beekman
Butler, J. Q. A. 117 Beekman
Cox, Abram, Stove Co. 284 Pearl
Duparquet, Huot & Moneuse Co. 43-45 Wooster
Ely & Ramsay, 247-249 Water
Golds Heater Co. 115 Beekman, John H. Keyser, Agt
Graff & Co. 208 Water
Hagan, Thomas, 227 E. 56th
Hallett, G. G. 92 Beekman
Harvey Furnace Co. 1325 Broadway
James & Kirtland, 110-116 Beekman
Keyser, John H. 115 Beekman
Lane, Ira G. 207 E. 64th
Lincoln, J. D. & C. C. 236 Water
Lyons, James G. 248 Water
Macgregor Furnace Co. 115 Beekman
Magee Furnace Co. 117 Beekman, Jno. Q. A. Butler, mgr.
Metcalf, H. 115 Beekman
Mott, J. L. Iron Works, 88 Beekman
Munsell, Eugene & Co. 218 Water

EUGENE MUNSELL & CO.,

MANUFACTURERS OF

French Manhattan Ranges, Peerless Manhattan Ranges, Famous Manhattan Ranges, Domestic and Premium Fire Place Heaters, Prince Manhattan Furnace.

No. 218 WATER STREET, NEW YORK.

Perry Stove Co. 84 Beekman
Richards, S. G. 115 W. 38th
Richardson & Boynton Co. 232-234 Water
Richardson & Morgan Co. 92 Beekman
Richmond Stove Co. Norwich, Conn. W. F. Higgins, agent, 379 Lexington av (see add p. 67)

Sheppard, Isaac A. & Co. 1801 No. 4th, Philadelphia, Pa.

ISAAC A. SHEPPARD & CO.,

Manufacturers of

Stoves, Ranges and Furnaces.

The Well-Known FIDELITY RANGES and PARAGON FURNACES a Specialty.

WM. KEILY, 247 Water St., New York Agent.

Sherwood Bros. 170 E. 62d
Simonds Mfg. Co. The, 50 Cliff
Starrett, George, 227 Water
Stretz, F. 100 Centre

F. STRETZ,

Successor to Hermann Tillack,

THE PATENT

Combined Steam Drum & Cooking Apparatus,

COOKING RANGES, VEGETABLE BOILERS, &c.

100 Centre Street, New York.

See Advertisement, page 66.

The Thatcher Furnace Co. 33 Peck sl e Front
Thomas, Roberts, Stevenson Co. 250 Water

The Standing Improvement of the Age.

"ACTIVE FORTUNE" RANGES,

New Pattern with High and Low Closet.

Thomas, Roberts, Stevenson Company,

No. 250 Water St., New York.

See Advertisement, page 68.

Union Stove Works, The, 70 Beekman
Utter, Sam. S. 113 Beekman

RED SAND STONE.

Clarkson, T. S. & Co. 55 Liberty

T. S. CLARKSON & CO.,

AGENTS FOR

POTSDAM RED SAND STONE

And Richville White Marble.

No. 55 LIBERTY STREET, NEW YORK.

REFLECTOR MAKERS, ELECTRIC LIGHT.

Edison General Electric Co. Edison bldg. 42-44
Broad and 275 Fifth av
Frink, I. P. 551 Pearl (see add opposite Sixth Ward)
Gleason, E. P. Mfg. Co. 20 W. Houston
Goetz, B. Mfg. Co. 172 Mercer
Holman, F. & Co. 128 Pearl

Refrigerators.—Register and Ventilator Dealers, Hot Air.—Register and Ventilator Manufacturers, Hot Air.—Regulators, Pressure (Curtis).

REFLECTOR MAKERS.

Ambrum Mfg. Co. 151 W. 29th
Bartlett Street Lamp Mfg. Co. (street lamp) 40-42 College pl
Burger, Alois, 24 W. 4th
Frink, I. P. 551 Pearl

Special Designs for Architects

—IN—

Reflectors & Reflecting Chandeliers

For Lighting
Fine Churches, Theatres and Public Buildings.

I. P. FRINK,

No. 551 PEARL STREET, NEW YORK.

See Advertisement, opp. Sixth Ward.

Gleason, E. P. Mfg. Co. 20 W. Houston
Goetz, B. Mfg. Co. 59 W. 18th and 162 W. 27th
Haas, George (paraboloid) 170-172 Centre
Holman, F. & Co. 128 Pearl
McCreary, Alfred A. 18 Cortlandt
Schunemann, Chas. H. 2-4 Howard
United States Lighting and Ventilating Co. 24 W. 4th

REFRIGERATORS.

Allegretti, Charles, 151 W. 29th
American Ice Mach. Co. 35 Broadway
Baldwin Mfg. Co. 1298 Broadway
Banta, Geo. A. 220 W. 23d and 372 Third av
Belding Mfg. Co. 273 Pearl
Briggs, James H. 9 W. 26th
Challenge Iceberg Refrigerator Co. 106 Chambers
Colien, Samuel, 32 Bayard
Conant, E. K. 9 W. 14th
Consolidated Ice Mach. Co. 210 E. 54th
Consolidated Refrigerating Co. 172 West
Craft Refrigerating Machine Co. 15 Cortlandt
Delavergne Refrigerating Mach. Co. ft. E. 138th
Dieter, P. & Co. 55 Beaver
Dubois, Julius M. 218 Thompson

JULIUS M. DUBOIS,

Manufacturer of

Refrigerators and Meat Houses.

218 Thompson St., Near Bleecker.

Garde-Manger Ice Boxes. Timbers and Kitchen Tables.
A Specialty of Fitting up the Working Departments of
Clubs, Hotels and Restaurants. Estimates and Plans
Furnished.

Dudley, William J. 599 Sixth av
Empire Hardware Co. 141 Duane and 540 W. 14th

Formhals, Henry, 2215 W. 28th
Hall, Charles J. 273 Pearl
Jack Frost Freezer Co. 29 Murray
Jackson & Co. 626 Tenth av
Kroenke & Bindewald, 404 E. 20th

KROENKE & BINDEWALD,

MANUFACTURERS OF

STORE, BAR AND OFFICE

❖ **FIXTURES,** ❖

Refrigerators and Ice Houses,

404 EAST 20th ST.,

Near First Ave.,

NEW YORK.

Law, William J. 324 E. 122d
Lorillard Refrigerator, 1168 Broadway
Mace, L. H. & Co. 111 E. Houston and E. 150th and Rider av
Mackinaw Refrigerator Co. 106 Chambers
Mayer, Charles G. 744 Broadway
Mayer, Oscar, 27 Fulton
New York Refrigerating Warehouse Co. 107 Murray
Page, Dennis & Co. 325 Broadway
Pontifex Refrigerating & Ice Making Mach. Co. 514 West
Ridgway Refrigerator Mfg. Co. 168 Church
Scip, Gottfried F. 179 Mott
Suydam, Samuel A. 550 Hudson
Walton, Ernest F. 874 Broadway
Watts, J. A. The Refrigerator Co. 250 E. 43d
Wickes Refrigerator Co. MacIntyre bldg. 874 Broadway

Wickes Refrigerator Company,

NEW YORK OFFICE,

No. 874 BROADWAY.

ERNEST F. WALTON,

Agent.

General Offices, Chicago, Ill.

Wight, Geo. R. & Co. 1168 Broadway
Wissman, Henry C. 321 E. 64th

REGISTER AND VENTILATOR DEALERS, HOT AIR.

Creamer, W. G. & Co. 96 John and 19 Platt
Simonds Mfg. Co. 50 Cliff
Tuttle & Bailey Mfg. Co. 83 Beekman

REGISTER AND VENTILATOR MFRS., HOT AIR.

Simonds Mfg. Co. 50 Cliff
Tuttle & Bailey Mfg. Co. 83 Beekman

REGULATORS, PRESSURE (CURTIS).

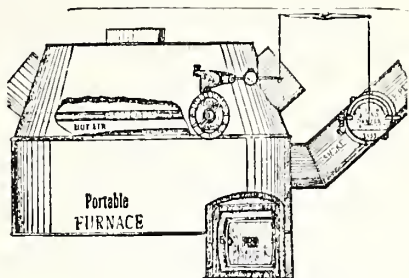
Aller, A. 109 Liberty

REGULATOR MFRS.

Acton, John (steam, water and air pressure) 191-193 Worth
Aller, A. 109 Liberty
Pollock, Alexander, 15 Cortlandt

Revolving Shutters, Iron.—Rolling Shutters, Steel, Self-Closing.—Rip Saws, Self-Feeding.
Rivet and Burr Manufacturers.—Rock Breakers and Ore Crushers.

Puffer, W. E. 73 Gold



Automatic Furnace Regulators,

Thousands in Use for Over 10 Years.

Send for Circular and References.

W. E. PUFFER,

No. 73 GOLD ST.,

NEW YORK.

Rowe, L. L. (automatic) 99 Beekman

REPAIRS ON STEAM APPARATUS.

Backus, Peter & Son, 133-135 W. 25th (see add p. 64)

Blackmore Heating Co. 88 John (see add p. 66)

Griffing, A. A. Iron Co. 106 Liberty

Roberts, Geo. I. & Bros. 471-473 Fourth av (see add pp. 62, 63)

REVOLVING SHUTTERS, IRON.

Althause, S. B. & Co. 101-103 Thompson (see add p. 27)

Central Iron Works, 203 E. 30th (see add p. 44)

Clark, Bunnett & Co. 162-164 W. 27th (see add p. 45)

Cook & Radley, 212-220 E. 37th

Cornell, J. B. & J. M. 141 Centre (see add pp. 35, 37, 39)

Dimond, J. G. & T. 209-211 W. 33d

Hafers, Chris. 407 W. 37th (see add p. 34)

Jackson Arch. Iron Works, 315 E. 28th (see add p. 31)

Linsey, W. A. 61 Warren

Lyon, W. E. 202 E. 46th (see add p. 46)

Muhl, J. & Son, 329 E. 33d (see add p. 50)

Nichols, S. & Son, 66 W. 3d

Stuetzer, H. & Co. 39 Dey st. N. Y. City, 474-494 Leonard, 49-61 Van Pelt av. Brooklyn (see add p. 40)

Union Iron Works, 29 Broadway

Westing, Theo. 449-455 W. 41st

Wilson, Jas. G. 74 W. 23d (see add p. 88)

ROLLING SHUTTERS, STEEL, SELF-CLOSING.

Althause, S. B. & Co. 101-103 Thompson (see add p. 27)

Clark, Bunnett & Co. 162-164 W. 27th (see add p. 45)

Wilson, James G. 74 W. 23d (see add p. 88)

RIP SAWS, SELF-FEEDING.

Pyribil, P. 512-524 W. 41st

RIVET AND BURR MFRS.

American Tack Co. 116 Chambers

Ansonia Brass & Copper Co. 19 and 21 Cliff

Benedict & Burnham Mfg. Co. 13 Murray

Benton & Co.

Bridgeport Brass Co. 19 Murray

Diamond State Iron Co. 11 Pine

Dunbar, Hobart & Co. 39 Warren

Hendricks Bros. (copper rivets), 49 Cliff

Holmes, Booth & Hayden (brass and copper),

25 Park pl. and 22 Murray

New Jersey Steel & Iron Co. 17 Burling sl

Osborne & Cheesman Co. (copper and brass), 39 Barclay

Plume & Atwood Mfg. Co. (copper), 18 Murray

Russell & Erwin Mfg. Co. (rivets), 43 to 47 Chambers

Scoville Mfg. Co. 423 Broome

Starke, Adolph (iron), 441 and 413 E. 10th

Topping & Fox (mfrs. agents), 96 Chambers

Wallace & Sons, (copper and brass), 29 Chambers

Waterbury Brass Co. (copper) 296 Broadway

ROCK BREAKERS AND ORE CRUSHERS.

Copeland & Bacon, 85 Liberty

Hubbard, Norman, 93-97 Pearl st. Brooklyn (see add p. 55)

Pierce & Thomas, 42 Cortlandt

Pollack, Alexander, 15 Cortlandt

Rand Drill Co. 23 Park pl (see add p. 3)

ROCK DRILLS.

American Diamond Rock Boring Co. 15 Cortlandt

Clayton, James, 43 Dey

Diamond Prospecting Co. 18 Broadway

Edwards, Jas. H. 52 Broadway

Rock Wall Plaster.—Rods, Lightning.—Rolled Copper.—Rolling Mills.—Rolling
Partitions and Doors.

Hubbard, Norman, 93-97 Pearl st. Brooklyn
(see add p. 55)
Ingersoll Sargeant Rock Drill Co. 10 Park pl
National Drill & Compressor Co. N. Y. City
Pierce, Chas. D. 127 Pearl (see add p. 212)
Rand Drill Co. 23 Park pl

RAND'S

Little Giant & Slugger Rock Drills

AIR COMPRESSORS,

Etc., Etc.

RAND DRILL CO., 23 Park Place, New York.

See Advertisement, facing Front Cover.

ROCK DRILLING MACHINERY.

American Diamond Rock Boring Co. 15 Cort-
landt

Clayton, James, 43 Dey

Diamond Prospecting Co. 18 Broadway

Edwards, Jas. H. 52 Broadway

Ingersoll-Sargeant Drill Co. 10 Park pl and 289
Ninth av

Pierce, Chas. D. 127 Pearl (see add p. 212)

Rand Drill Co. 23 Park pl (see add p. 3)

ROCK WALL PLASTER.

Rock Plaster Co. of New York, 44 Broadway

ROCK WALL PLASTER

Is a Substitute for Old-Fashioned Plaster, is
Fire Proof and Water Proof.

Saves Time in Building. Saves Money in Repairs.

The Rock Plaster Co. of New York,
No. 44 BROADWAY.

See Advertisement, page 137.

RODS, LIGHTNING.

Cameron Iron Works, 182 Sixth av

DeWitt Wire Cloth Co. 32 Reade (see add p. 26)

Howard & Morse, 45 Fulton (see add p. 5)

Johnson, Chas. 52 John

Lilly, C. H. 16 Centre

Turner, J. 49 Cortlandt

West, J. D. & Co. 49 Cortlandt

Westervelt A. B. & W. T. 102 Chambers (see
add p. 203)

Williams, E. H. 64 College pl

Wilson, Alphonso, 46 Cortlandt

ROLLED COPPER.

Ansonia Brass & Copper Co. 19-21 Cliff

Hendricks Bros. 49 Cliff

Lewisohn Brothers, 81-83 Fulton

New Haven Copper Co. 294 Pearl

Randolph & Clowes, 131 Worth

Rivere Copper Co. 242 South

Taunton Copper Mfg. Co. 232 South

Wallace & Sons, 29 Chambers

ROLLING MILLS.

Aluminum Brass & Bronze Co. The (aluminum

brass and copper), Stewart bldg. 53 Chambers

Ansonia Brass & Copper Co. (brass and copper),
19 and 21 Cliff

Benedict & Burnham Mfg. Co. 13 Murray

Bridgeport Brass Co. (brass), 19 Murray

Bristol Brass & Clock Co. 32 Warren

Cooper, Hewitt & Co. (iron), 17 Burling st

Davol, John & Sons (brass and copper), 100
John

Diamond State Iron Co. 11 Pine

Hendricks Bros. (copper), 49 Cliff

Holmes, Booth & Haydens, (brass), 25 Park pl
and 22 Murray

Lewisohn Bros. (copper), 81 to 83 Fulton

Manhattan Brass Co. (brass), 338 E. 28th

Milliken Bros. 55 Liberty

New Haven Copper Co. (copper), 294 Pearl

Osborne & Cheesman Co. (brass, copper and
German silver), 39 Barclay

Passaic Rolling Mill Co. (iron), 45 Broadway

Plume & Atwood Mfg. Co. (brass), 18 Murray

Pottstown Iron Co. 280 Broadway

Randolph & Clowes (brass and copper), 131
Worth

Revere Copper Co. (copper), 242 South

Scoville Mfg. Co. (brass and copper), 423 Broome

Seymour Mfg. Co. (brass and German silver),
100 Chambers

Wallace & Sons (brass and copper), 29 Cham-
bers

Washburn & Moen Mfg. Co. 16 Cliff

Waterbury Brass Co. (brass), 296 Broadway

ROLLING PARTITIONS AND DOORS.

Clark, Bunnett & Co. 162-164 W. 27th (see add
p. 45)

Pirron, F. M. & Co. Lincoln bldg. 1-3 Union
sq c 14th

Wilson, Jas. G. 74 W. 23d (see add p. 88)

ROLLING SHUTTERS, WOOD.

Bradley & Currier Co. Ltd. The, 308 Hudson

Clark, Bunnett & Co. 162-164 W. 27th (see add
p. 45)

Pirron F. M. & Co. Lincoln bldg. 1-3 Union
sq c 14th

Wilson, Jas. G. 74 W. 23d (see add p. 88)

Rolling Steel Shutters.—Roof Blocks, Fire Proof Plaster.—Roof Brackets.—Roof Lights.—
Roof Snow Guards.—Roof Trusses, Girders and Joints.—Roofers' Cement.—
Roofers' Cement, Asphaltic.

ROLLING SHUTTERS, IRON.

Clark, Bunnett & Co. 162-164 W. 27th (see add p. 45)
Lyon, W. E. 202 E. 46th (see add p. 46)
Muhl, J. & Son, 329 E. 33d (see add p. 50)
Wilson, James G. 74 W. 23d (see add p. 88)

ROLLING STEEL SHUT- TERS.

Clark, Bunnett & Co. 162-164 W. 27th (see add p. 45)
Lyon, W. E. 202 E. 46th (see add p. 46)
Wilson, Jas. G. 74 W. 23d (see add p. 88)

ROOF BLOCKS, FIRE PROOF PLASTER.

De Rache, Leonard, 250 W. 70th (see add p. 133)
Guastavino Fire Proof Construction Co. ft. W. 57th (see add opp. Part 3, Twelfth Ward)
Macknight, J. W. Flintie Stone Co. 150 B'way (see add p. 7)
Meeker & Carter, 14 E. 23d
Robbins, Geo. B. & Co. Third av and 136th (see add p. 122)
Staten Island Terra Cotta Lumber Co. Equitable bldg. 120 Broadway (see add p. 130)
The Tile Fire Proof Construction Co. Central bldg. 143 Liberty
The Van Fire Proofing Co. Albert Von den Driesch, 92-94 Liberty (see add opp. back inside cover)

ROOF BRACKETS.

Lyon, W. E. 202 E. 46th (see add p. 46)
Stanley Rule and Level Co. 29 Chambers

ROOF LIGHTS.

Althause, S. B. & Co. 101-103 Thompson (see add p. 27)
Dale Tile Mfg. Co. Ltd. 398 Broome (see add p. 49)
Lyon, W. E. 202 E. 46th (see add p. 46)
Schwoerer, J. 8 E. 2d (see add p. 142)
The Plenty Horticultural & Skylight Works, 145 Liberty

ROOF SNOW GUARDS.

Althause, S. B. & Co. 101-103 Thompson (see add p. 27)
Halliday, M. 218 E. 9th
Howard & Morse, 45 Fulton (see add p. 5)

ROOF TRUSSES, GIRDERS AND JOINTS.

Althause, S. B. & Co. 101-103 Thompson (see add p. 27)
Moseley Iron Bridge and Roof Co. 5-7 Dey (see add p. 49)
Prince & Kinkel Iron Works, 729-731 First av (see add p. 51)

ROOFERS' CEMENT.

N. Y. Iron Roofing and Corrugating Co. 29 Broadway (see add p. 51)
Swartz, E. H. 23 Av. A (see add p. 106)

ROOFERS' CEMENT, AS- PHALTIC.

Furlong & Furlong, 134th and Third av (see add p. 142)
Johns, H. W. Mfg. Co. 87 Maiden la
Mica Roofing Co. William H. H. Childs, 73 Maiden la
New, T. Mfg. Co. 874 Broadway, MacIntyre bldg
Robbins, Geo. B. & Co. 136th and Third av (see add p. 122)
Stewart, William H. 182 Front
Sturges, Westcott & Harrold Co. 192 West
Warren Chemical & Mfg. Co. 81-83 Fulton

ROOFERS, COMPOSITION.

Asphaltic Slag Paving & Roofing Co. 29 Broadway
Burkelman, Charles, 16 Grand
Burnell, Charles H. 804 Ninth av
Childs, Wm. H. II. 73 Maiden la
Comius & Evans, 81 Fulton
Conway, D. & Sons, 173 Broadway
Covert, E. C. 714 Seventh av
Dreyer, Gustav, 224 Division
East Court Mfg. Co. 136 Liberty
Forrest, Wm. 414 E. 103d
Furlong & Furlong, 134th & Third av (see add p. 142)
Gambée, Isaac T. 637 E. 145th
Germania Roofing Co. 16 Grand
Gordon, Patrick, 65th & Eighth av
Gum Elastie Roofing Co. 39-41 W. Broadway (see add p. 75)
Howard & Harris, 307 W. 44th
Knapp, Alfred H. 323 W. 53d
Mica Roofing Co. 73 Maiden la
Moens Asphaltic Cement Co. 103 Maiden la
Neuchatel Asphalt Co. The, 265 Broadway (see add p. 135)
New, T. Mfg. Co. MacIntyre bldg. 874 Broadway

New York Roofing Co. The, 437 E. 23d
 O'Leary, Thomas & Son, 235 Centre
 Plastic Slate Roofing Co. 110 John
 Rankin, W. H. 91 Maiden la
 Robbins, Geo. B. & Co. 136th & Third av
 (see add p. 122)
 Rooney, Thomas, 1758 Broadway & 203 W.
 37th
 Scofield, George, 454 E. 138th
 Sexton, Wm. 42 W. 62d
 Star Roofing Co. 15 State & 4 Pearl
 Tait, John G. & Co. 100 Maiden la
 Taylor, Matt. Paving Co. 15 State (see add p.
 134)
 Turton, Thomas, 83 Maiden la (see add p.
 73)
 Turton, W. H. & Co. 72 Maiden la
 Vanderbilt, George, 501 W. 14th
 Warren Chemical & Mfg. Co. 81 Fulton
 Waterman, Byron, 805 Seventh av
 Whalen, Frank T. 81 Barelay

ROOFERS, METAL.

Abel, Chas. W. 53 Orchard
 Alexander Bros. 3 Pellam
 Architectural Sheet Metal Works, 205 E.
 99th
 Baumann, Chas. 291 Seventh av
 Beattie, Andrew, 33 E. Second
 Beck, Chas. 598 Ninth av
 Becker, J. C. L. 174 E. 87th
 Berwitz, R. J. 257 Rivington
 Biegen, Adam, 156 Third av
 Blech, M. 18 Forsyth
 Bloomer, J. P. 11 E. 10th
 Bonaszewiskie, I. 311 E. 31st
 Borkel, John, 42 E. Houston
 Boss, Simon, 28 Columbia
 Brady, Phillips & Co. 863 Sixth av
 Brandt, Fred. 169 E. 85th (see add p. 106)
 Brandt, W. H. 555 E. 140th
 Breivogel, Geo. 46-53 Rose
 Brendel, Michael. 509 W. 28th
 Broscherts, D. 789 E. 144th
 Buchsbaum, Jos. 126 Delaney
 Burkelman, Chas. 16 Grand
 Cassidy, Chas. O. C. rear 122 E. 11th
 Christ, John C. & Son, 263 William
 Clark, Thomas, 479 W. 150th
 Comius & Evans, 81 Fulton
 Conway, D. & Sons, 173 Broadway
 Cooper & Levine, 50 Ludlow
 Coot, John, 15 Seventh av
 Coot, W. H. 178 Wooster
 Cunnon, Jas. & Son, 112 Fulton
 Curry, Patrick, 530½ Broome
 Darey, Felix, 163 E. 31st
 Deacon, W. 17 Eighth av
 Degeorge, Anton, 501½ W. 49th
 Degnan, John, 769 Ninth av
 Dexheimer, Matthew, 2478 Eighth av
 Dohrenwend, Wm. 230 Columbus av

WM. DOHRENWEND, ROOFS REPAIRED & PAINTED,

230 COLUMBUS AVENUE,

Between 70th and 71st Sts., NEW YORK.

Furnaces and Ranges Cleaned and Repaired. Repairs
 for all Stoves and Ranges.

Doran, Edward, 476 Hudson
 Dreyer, Gustav, 224 Division
 Duegan, R. J. 162 Mulberry
 Dunn, L. J. 350 E. 64th
 Dusenbury, Geo. 28 Church
 Dusenbury, Wm. W. 86 Broad
 Ellertsen, Louis, 26 Attorney
 England, Richard, 54 W. 29th
 Ennis, Wm. 152 Sullivan

WILLIAM ENNIS, SLATE AND METAL ROOFER,

No. 152 Sullivan Street,

Bet. Prince and Houston Sts., NEW YORK.

Roofs Repaired and Painted. Cornices, Gutters and
 Leaders.

Federroll, R. (tin) 267 W. 35th & 372 Sev-
 enth av

Finley, John, 258 Division
 Fischer, Geo. & Bro. rear 205 Forsyth
 Fitzsimons, M. & Co. 224 W. 36th
 Flanagan, John, 396 Fourth av
 Fuhrer, 56½ Jackson av
 Furlong & Furlong (gravel) 134th & Third
 av (see add p. 142)
 Gallagher, Michael, 33 Roosevelt
 Germania Roofing Co. 16 Grand
 Germeeck, Carl, 975 E. 161st
 Glasser, J. & Mendamschik, 691 Second av
 Goldman, Bernard, 211 W. 63d
 Gompers, Simon, 227 E. 107th
 Good, Wm. E. 346 W. 17th
 Goodwine, Philip, 20 Eighth av

PHILIP GOODWINE, Stoves, Ranges, Furnaces & Heaters

SET AND REPAIRED.

Copper, Zinc, Tin and Sheet Iron Worker.

20 EIGHTH AVENUE, Cor. West 12th St., N. Y.

Metal Roofing. Roofs Repaired and Painted.
 Jobbing Promptly Attended to,

Gorton, S. & W. 119 W. 30th
 Grant, D. Lewis, 83 Cedar
 Gregory, James, 140 W. 38th
 Griggs & Crowley, 294 Sixth av
 Guinea, Daniel, 301 E. 63d
 Gulde, Julius, 80 Third
 Gundlache, John, Columbus av & 126th
 Gunning, John, 293 Tenth av
 Hafner, Jacob, 2080 Amsterdam av
 Hagan, Thomas, 227 E. 56th
 Hagan, Thomas, 868 Eighth av
 Haimowitz, J. & Son, 47 Orchard
 Halliday, M. 218 E. 9th
 Hannan, J. W. 1885 Vanderbilt av
 Harlem Roofing Co. 543 E. 116th
 Harrison, Timothy, 235 Centre

Harrison, M. & Son, 214 E. 53d
 Harvey, Geo. M. Tremont av
 Hassler, Geo. 168 Eldridge
 Hatch, Chris. 821 Ninth av
 Hatfield, S. E. 151 W. 25th
 Helman, Louis, 232 Rivington
 Herrmann, Geo. 79 Chrystie
 Herz, David, 1439 Third av
 Hindley, Thomas & Son, 819 Sixth av
 Hupfer, N. 50 E. Houston

**NIKLAS HUPFER,
 TIN, COPPER AND SHEET IRON WORKER,
 ROOFER,**

Manufacturer of Galvanized Iron Cornice, Mouldings,
 Gutters, Etc.

**50 EAST HOUSTON ST.,
 NEW YORK.**

Irving, Geo. H. & Bro. 403 W. 24th
 Isted, Thos. M. 189 E. 64th
 Jones, Wm. H. 602 Eighth av
 Jordan, Calvin R. 188 W. 4th
 Kalbert, Alfred, 154 Fourth av
 Kearney, John, 413 W. 32d
 Kelly, Sydenham, 256 Sixth av
 Kennedy, Jas. & Co. 450 W. 19th
 Kenny, Jos. 431 W. 53d
 Kewan, Matthew C. 106 W. 127th
 Knauss, Gottlieb, 48 First
 Koshminsky, I. 1107 Third av
 Koshminsky, M. 1051 Third av
 Kruger, Chas. 324 Tenth av
 Kutner & Rosenthal, 64 Cannon
 Lagerstedt, L. 161 E. 86th
 Lederer, Chas. 40 Bond
 Lesauvage, John, 40 Duane
 Levy, Benjamin B. 207 E. 121st
 Lufburrow, John E. 15 Columbus av
 Lum, L. 6 Jefferson
 McArdie, Peter H. 154 E. 35th
 McLaughlin & Gleason, 62 Spring
 Machwirth & Smith, 424 Fourth av
 Mackey, John, 297 Seventh av
 Maguire, Andrew, 35 Third av
 Mahon Bros. 1907 Park av
 Mahoney, Daniel, 121 Ninth av
 Matthews, James & Son, 510 E. 20th
 May, Wm. M. 609 W. 52d
 Melchoir, Fred. 1041 Park av
 Miller, John & Son, 634 Ninth av
 Mills, James, 216 Mulberry
 Morgan, Jos. P. 1301 Third av
 Morrow, John, 225 W. 59th
 Moseley, John S. 189 West
 Muhlethaler, Chas. 342 E. 33d
 Mullen, Michael, 224 Sixth av
 Muller, Henry, 244 E. 54th
 Muntz, Adam, 902 Eighth av
 Murphy, Geo. M. 43 New Chambers
 Nadel, David, 532 Sixth av
 National Sheet Metal Roofing Co. 9 Cliff
 Netter, Jacques, 344 E. 33d
 Neumann, Louis, 362 Third av
 New, T. Mfg. Co. 874 Broadway
 N. Y. Iron Roofing & Corrugating Co. 29
 Broadway (see add p. 51)

N. Y. Roofing Co. 437 E. 23d
 Nicholson & Galloway, 646 Hudson
 Nierolmer, August, 347 E. 105th
 Norris, Thomas, 207 E. 47th
 O'Callaghan, Thomas, 42 W. 62d
 O'Crowley, M. F. 41 Ann
 Park, Louis, 887 First av
 Perlstein, Louis, 26 Market
 Pinkiert, Peter, 94 Orchard
 Powers, Edward, 952 First av
 Quetting, Adolph, jr. 48 Canal
 Reich, Wm. 848 First av
 Reichert, Christian, 106 Essex
 Reilly, John, 151 Third av
 Reincke, Fred. C. 68 Forsyth
 Robinson, W. G. 212 Third av
 Robbins, Geo. B. & Co. 136th & Third av
 (see add p. 122)
 Rooney, T. & Co. 1631 Broadway
 Rosenbaum & Kammerman, 70 Sixth av
 Royce, Herbert A. 1825 Park av
 Ryan, P. J. 321 E. 93d
 Ryan & Thompson, 103 Lewis
 Sacks, H. 1483 Second av
 Saron, David, 45 Pearl
 Scheiber, John J. 1176 Second av
 Schellmann, V. M. 139 Spring
 Schoen, J. 113 W. Broadway
 Schuler, Chas. 15 Stuyvesant
 Schwartz, Hyman, 27 Chrystie
 Schwartz, Morris, 114 Willett
 Schwoerer, J. 8 E. 2d (see add p. 142)
 Sellheim & Merz, 523 Pearl
 Sheahan, C. F. 397 Ninth av
 Sherwood, Bros. 170 E. 62d
 Simpson, I. H. 592 Columbus av
 Smith, Geo. (tin and slate) 411 Second av

**GEORGE SMITH,
 TIN AND SLATE ROOFER,**

411 SECOND AVENUE,

Between 23d and 24th Sts., NEW YORK.

Cornices, Gutters and Leaders Made and Put up. Metal
 Skylights. All Orders Promptly Attended to.

Smith, James, 424 Fourth av
 Smith & Miller, 441 W. 39th
 Steigelmann, J. & F. 241 E. 54th
 Steinmetz, Jacob, 166 Second av
 Stoffel, Aug. 156 E. 35th
 Stretz, F. 100 Centre (see add p. 66)
 Subrey, Chas. 1224 Second av
 Swift, John, 904 Eighth av
 Teasdale, Geo. E. 189th & Kingsbridge road
 Thompson, Robert, 124 W. Houston
 Timmins, John, 203 W. 17th
 Turton, Thomas, 83 Maiden la (see add p. 73)
 Tyler, Francis J. 259 W. 21st
 Tyrrell & Cunliffe, 38 Sixth av
 Valentine, B. C. & Co. 219 Greene
 Valentine, Chas. 117 W. 10th
 Vance, Richard, 545 Broome
 Vandervort, Chas. M. 551 E. 116th
 Van Riper, Chas. & Co. 157 E. 126th
 Viereck, Herman, 421 Third av
 Walsh, Henry J. 37 Sullivan

Walsh, John J. 255 E. 127th
 Wanzer, Chas. 205 Lewis
 Warnicke, Wm. 137 E. Houston
 Weiss, Louis, 631 Ninth av
 Werber, Frank, 252 Madison
 Whitmore, Jos. B. 260 Eighth av
 Wolff, Charles, 3-7 Rector

ROOFERS, SLATE.

Alexander, Edward, 1068 Third av
 Bleechner, Albert, 2985 Third av
 Borkel, John, 42-44 Houston
 Brendel, M. 509 W. 28th
 Burden, George, 475 Seventh av
 Burkelman, Charles, 16 Grand
 Chadwick, Daniel, 136 Varick
 Conway, D. & Sons, 173 Broadway
 Dalton, Thomas W. r 95 Sheriff
 Doran, Edward, 476 Hudson
 Dreyer, Louis, 339 W. 18th
 Forrest, William, 300 E. 102d
 Galt, John & Sons, 52 John
 German American Roofing Co. 139 E. Broad-
 way
 Germania Roofing Co. 16 Grand
 Goldman, Bernard, 201 W. 63d
 Hagan, Thomas, 227-229 E. 56th
 Halliday, M. 218 E. 9th
 Harrison, M. & Son, 214-216 E. 52d
 Hyland, Thomas, 152 E. 41st
 Irving, Geo. H. & Bro. 403 W. 24th
 Jacob, August, 260 E. 78th
 Jones & Ellis, 9 Thomas
 Kennedy, James & Co. 450 W. 19th
 Lufburrow, J. E. 15 Columbus av
 Mackey, John, 297 Seventh av
 Mathews, James & Son, 512 E. 20th and 176 E.
 110th
 May, William M. 609 W. 52d
 Moore, Thomas, 1869 Amsterdam av
 Morrow, J. 225 W. 50th
 Murphy, George M. 43 New Chambers and 2
 Madison
 Neil, John, 445 W. 16th
 New, T. Mfg. Co. McIntyre bldg. 874 Broad-
 way
 N. Y. Roofing Co. 437 E. 23d, 10 Warren and
 445 Pleasant av
 Plastic Slate Roofing Co. 110 John
 Simpson, James, Morris av and 164th
 Stichnoch, Louis, 90 Rivington
 Stonebach, William, 502-504 West, Agt. Chap-
 man Slate Co
 Trittler & Walther, 404 E. 104th
 Turton, Thomas, 83 Maiden la (see add p. 73)
 Vance, Richard, 545 Broome
 Vanderbilt, Geo. 14th and 10th av

ESTABLISHED 1865.

CEO. VANDERBILT,
 Contractor for

Gravel, Metal & Slate Roofing,

Water Tight Floors, Cellars and Vaults. Corrugated
 Iron Siding and Ceilings.

West 14th St. and 10th Ave., New York.
 Asphalt and Artificial Stone Paving.

Van Orden, Edward & Co. 110 John
 Vincent, William E. D. 445 W. 45th

Walsh, Henry J. 37 Sullivan
 Werner, Charles, 611 E. 150th
 Winters, Charles, 68 Grove

ROOFING MATERIALS.

Arch. Sheet Metal Works, The, 205-207 E. 99th
 Asbestos Packing Co. 5 Dey
 Asphaltic Slag Paving & Roofing Co. 45 Broad-
 way
 Belcher Slate Co. The, 503-507 West
 Bergen, D. V. 186 Franklin
 Boseger, Fred. 581 Eleventh av
 Bruce & Cook, 248 Pearl
 Burkelman, Charles, 16 Grand
 Chapman Slate Co. The, 503-507 West
 Childs, William H. H. 73 Maiden la
 Coddington, T. B. 29 Cliff
 De Milt, H. R. & Co. 238 Water
 Druid Felt Co. 82 John
 Ellis Mfg. Co. 71 Broadway
 Furlong & Furlong, 134th st. and Third av (see
 add p. 142)
 Galt, John & Sons, 52 John
 Germania Roofing Co. 16 Grand
 Glines, Moses K. 39 W. Broadway
 Gum Elastic Roofing Co. 39-41 W. Broadway

The GUM ELASTIC ROOFING

Is Absolutely Non-Combustible and
 Guaranteed to Last 10 Years.

TRY IT.

GUM ELASTIC ROOFING COMPANY,
 41 West Broadway, New York.

See Advertisement, page 75.

Hainsley Metal Roofing Co. 18 Cliff
 Halliday, M. 218 E. 9th
 Hewitt, C. B. & Bros. 48 Beekman
 Hintze, Julius, 79 Maiden la
 Hoopes & Shipman, 1526 Broadway
 Indiana Paint & Roofing Co. 42 W. Broadway
 Johns, H. W. Mfg. Co. 87 Maiden la
 Johnson, E. J. 18 Burling st
 Lee Composite Mfg. Co. 29 Broadway
 Lyon, W. E. 202 E. 46th (see add p. 46)
 Manhattan Parchment & Moth Paper Works, 6
 Reade
 Martin, E. H. & Co. 163 Pearl
 Merry, John & Co. 535 W. 15th (see add p. 66)
 Mica Roofing Co. 73 Maiden la
 Mineralized Rubber Co. 18 Cliff
 Moseley Iron Bridge & Roof Co. 5-7 Dey (see
 add p. 49)
 National Sheet Metal Roofing Co. 9 Cliff
 New, T. Mfg. Co. MacIntyre bldg. 874 Broad-
 way
 N. Y. Coal Tar Chemical Co. 10 Warren
 N. Y. Roofing Co. 437 E. 23d, 10 Warren and
 445 Pleasant av
 N. Y. Iron Roofing & Corrugating Co. 29 Broad-
 way (see add p. 51)
 Powerville Felt Roofing Co. Ltd. 132 Maiden la
 Rankin, W. H. 91 Maiden la
 Rickard & Hubbe, 24 State
 Rimington, S. A. 19 Whitehall
 Smith, Fitzhugh, 160 Greenwich
 Stewart, William H. 182 Front
 Sturges, Westcott & Harrold Co. 192 West

Roofing, Metal Tiles.—Roofing Plate and Wrought Iron Illuminating Doors.—Roofing Tile, Vitrified.—Roofing Tin, American.

Swan, Alfred F. 38 Dey
Tait, John G. & Co. 100 Maiden la
Taylor, Matt. Paving Co. 15 State (see add p. 134)
Thomas, E. H. 176 Broadway
Tueker, W. G. ft. E. 116th
Turton, Thomas, 83 Maiden la (see add p. 73)
Valentine, Charles, 1170 Ninth av
Warren Chemical & Mfg. Co. 81 Fulton
Warren, Wood & Co. 29 Broadway
Wheeler Corrugating Co. 81 Fulton
White, Geo. A. 36 John
Wootton, Edwin H. 35 Broadway

ROOFING, METAL SLATE.

Conway, D. & Sons, 173 Broadway
Schwoerer, J. 8 E. 2d (see add p. 142)
Vanderbilt, Geo. 14th st. and Tenth av

ROOFING, METAL TILES.

Conway, D. & Sons, 173 Broadway
Dale Tile Mfg. Co. Ltd. 398 Broome (see add p. 49)
Schwoerer, J. 8 E. 2d (see add p. 142)

ROOFING PLATE AND WROUGHT IRON ILLUMINATING DOORS.

Coddington, T. B. & Co. 27 Cliff
DeMilt, H. R. & Co. 238 Water
Mark, Jacob, 7 Worth (see add p. 30)
Muhl, J. & Son, 329 E. 33d (see add p. 50)
Phelps, Dodge & Co. 11 Cliff
Prince & Kinkel Iron Works, 727-729 First av
(see add p. 51)
Tice & Jacobs, 510 Pearl (see add p. 32)

ROOFING TILE, VITRIFIED

Colman, Chas. H. & Co. 145 Broadway (see add pp. 136, 137)
Conway, D. & Sons, 173 Broadway
Cortwright Metal Roofing Co. 83 Cedar
Hagan, Thomas, 227-229 E. 56th
Halliday, M. 218 E. Ninth
Harrison, M. & Son, 214-216 E. 52d
Morrow, J. 225 W. 50th
New, T. Mfg. Co. 874 Broadway, MacIntyre bldg
Person, Orrin D. Mohawk bldg. 160 Fifth av

ORRIN D. PERSON,

Mohawk Building, Cor. 21st St. & 5th Ave.

Akron Vitrified Roofing Tile.

Sole Agent for Columbus Brick, all Shades. E. & H. Mottled Brick.

BRICK, FINE BUFF, MOTTLED & OLD GOLD.

See Advertisement, page 139.

Robbins, George B. & Co. 136th st. and Third av (see add p. 122)
Thomas, E. H. 173 Broadway
U. S. Fire Clay Co. Branch Office, 145 Broadway, Chas. H. Colman & Co. agts. (see add p. 137)

ROOFING TIN, AMERICAN.

DeMilt, H. R. & Co. 238 Water

H. R. DeMILT & CO.,

Importers and Dealers in

Tin Plate, Sheet Iron, Galvanized Iron, Russia and Planished Iron.

Zinc, Copper, Wire, Solder, Rosin, &c. Tin and Galvanized Iron Leader and Eave Trough. Sole Agents for P. H. Laufman & Co.'s First American Roofing Tin, Best Steel, Full Coated, Equal to Best Imported.

238 Water St., near Beekman St., N. Y.

Merchant & Co. 247 Pearl

RUBBER GOODS.

American Rubber Co. 78 Reade and 177 Church
Anderson Rubber Co. 100 Duane
Ballard, Stephen, Rubber Co. 123 Chambers
Bannmann Rubber Co. 51 Leonard
Becker, Chas. F. 165 Eighth av
Behringer & McCoy, 44 Dey
Boller, Jos. 24 Ann
Boston Belting Co. 100 Chambers
Boston Gossamer Rubber Co. 52 Leonard
Boyd, Jones & Co. 36 White
Brogan, Richard, 292 Grand
Bruff, Richard P. 100 Duane
Buekley, J. W. 156 South
Butler Hard Rubber Co. (mfrs.) 33 Mercer
Byers, Jos. J. Stewart bldg, room 183
Camp & Crane, 27 Maiden la
Canfield Rubber Co. 73 Warren
Century Rubber Co. 571 Broadway
Chemical Rubber Co. 233 Broadway
Cleveland Rubber Co. 204 Church
Columbia Rubber Works Co. 65 Reade and 83 Chambers
Commonwealth Rubber Co. 54 Vesey
Cox, Frederick, 336 W. 40th
Cressy, Thos. M. 72 Reade
Cummings, W. H. & Son, 290 Washington
Daval Rubber Co. 8 Thomas
Dennley, Mary, 292 Grand
Dickinson Hard Rubber Co. 25 Mercer
Donegan & Swift, 11 Murray
Doty & Herbert, 241 Greenwich
Earle Bros. 150 Pearl
Epstein, Chas. 143 Wooster
Exceelsior Rubber Mfg. Co. 28 Vesey
Faber, Eberhard, 545-547 Pearl
Fairfield Rubber Co. 110 Worth
Farrington, Ira B. 26 Vesey
Foster, Benjamin C. 16 Murray
Frank, David, 53 Crosby
Gates, M. S. & Co. 75 Fulton
George, Chas. T. 751 Sixth av
Goodrich Hard Rubber Co. 65 Reade and 13 Lispenard

Goodyear Hard Rubber Co. 11 Mercer
 Goodyear Rubber Co. (mfrs) 487 Broadway and
 17 Murray
 Goodyear Vulcanite Co. 353 Broadway
 Goodyear's India Rubber Glove Mfg. Co. 205
 and 503-505 Broadway
 Goodyear's, M. R. Shoe Co. 72 Reade
 Greene, Frank W. 64 Pine
 Gutta Percha & Rubber Mfg. Co. 35 Warren
 Hall, Robert S. 285 Bowery
 Hamilton Rubber Co. 10 Barclay
 Harrall, William W. 95 W. Broadway
 Hearsey, Edward L. 335 Broadway
 Hick, Ratcliffe, 41 Park row
 Hodgman Rubber Co. 459 Broadway and 21
 W. 23d
 Holt, Edward, 34 E. 14th
 Hovey, Henry R. 224 Sixth av
 Imperial Rubber Co. 134 Liberty, Geo. E. Aus-
 tin, Mgr
 India Rubber Comb Co. 11 Mercer
 International Rubber Clothing Co. 117 South
 Jessurun, A. S. 25 White
 Kaldenberg, F. J. Co. 211-229 E. 33d
 Kleinert, I. B. Rubber Co. 32 E. Houston
 Knapp Rubber Bending Co. 335 Broadway
 Loughton, Joseph B. 52 Dey
 Leonard & McCoy, 118 Liberty
 L'Hommecieu, S. Y. & Co. 65 Reade
 Loewenthal & Morganstern, 154 Nassau
 McCarthy, T. Frank. 51 Leonard
 McCormick, Edward J. 8 College pl
 Mandleberg, J. & Co. Ltd. 155 Greene
 Mattson Rubber Co. 8 College pl
 Metropolitan Rubber Co. 676 Broadway & 157
 Leonard
 Meyer Rubber Co. 80 Reade
 Milberg, Edward G. 117 South
 Mineralized Rubber Co. (mfrs) 18 Cliff
 National India Rubber Co. 487 Broadway
 New Brunswick Rubber Co. 137 Duane
 N. J. Car Spring and Rubber Co. 10 Barclay
 N. J. Rubber Shoe Co. 52 Reade
 N. Y. Belting and Packing Co. (mfrs.) 15 Park
 row (see add front inside cover)
 N. Y. Rubber Co. 84 Reade
 Parker, Stearns & Sutton, 228 South and 449
 Water
 Peerless Rubber Mfg. Co. 15 Warren
 Place Bros. 163 South
 Randall, Howard S. 70 Reade and 112 Duane
 Revere Rubber Co. (mfrs.) 64 Reade
 Riverside Rubber Co. 17 Murray
 Rubber Clothing Co. 487 Broadway
 Rubber Reclaiming Co. 280 Broadway
 Russ, William V. 28 Vesey
 Sage & Co. 122 Duane
 Schwenker, W. M. 12-14 Cliff
 Simon, Edward S. 52 Leonard
 Sinclair Rubber Co. 136 Chambers
 Sinclair & Co. 136 Chambers
 Smyth, Henry (Firm of) 66 Pine
 Standard Co. 51 Leonard
 Stemmler, T. W. & Co. 36 E. 14th
 Studley, Theodore E. 17 Murray
 Travis, Andrew B. 194 Broadway
 Truslow, Louis B. r 43 Centre
 Union India Rubber Co. 487 Broadway
 Vantwoud, Victor C. 28 Frankfort
 Warne, Wm. & Co. 280 Broadway

Waterbury Rubber Co. (mfrs.) 49 Warren

WATERBURY RUBBER CO.



See Advertisement, page 72.

Watson, Bull & Co. 62 White
 Watts, Samuel C. 2197 Third av
 Wiegandt, A. H. 335 Broadway
 Wigands, Chas. F. 13 E. 17th
 Williams, Harry B. 8 College pl
 Woonsocket Rubber Co. 76 Reade
 Zephyr Rubber Mfg. Co. 336 W. 40th

RUBBER HOSE MFRS.

Ballard, Stephen, Rubber Co. 123 Chambers
 Boston Belting Co. 100 Chambers
 Burnet Co. The, 126 Maiden la
 Eureka Fire Hose Co. (mfrs.) 13 Barclay
 Fabric Fire Hose Co. 13 Park row and 28 Col-
 lege pl
 Greene, Tweed & Co. 83 Chambers and 63
 Reade (see add p. 53)
 Guibert, John C. N. 115 Broadway
 Gutta Percha & Rubber Mfg. Co. 35 Warren
 Imperial Rubber Co. 134 Liberty, George E.
 Austin, Mgr.
 Leonard & McCoy, 118 Liberty
 Mineralized Rubber Co. 18 Cliff
 National Hose Coupling Co. 10 Barclay
 N. Y. Belting & Packing Co. (mfrs.) 15 Park
 row (see add front inside cover)
 Reddaway F. & Co. 52 New
 Revere Rubber Co. (mfrs.) 64 Reade
 U. S. Supply Co. 51 John
 Waterbury Rubber Co. 49 Warren (see add p.
 72)
 Wood, E. L. Steam Hose and Fabric Mfg. Co.
 50 E. 13th

RUBBER MACHINE BELT- ING.

Boston Belting Co. 100 Chambers
 Gutta Percha and Rubber Mfg. Co. 35 Warren
 Imperial Rubber Co. 134 Liberty, George E.
 Austin, mgr
 Mineralized Rubber Co. 18 Cliff
 New York Belting and Packing Co. 15 Park
 row (see add front inside cover)
 N. Y. Rubber Co. 84 Reade
 Revere Rubber Co. (mfrs.) 64 Reade

RUBBER MATS, MATTING AND STAIR TREADS.

Boston Belting Co. 100 Chambers
 Gutta Percha and Rubber Mfg. Co. 35 Warren

Rule Makers.—Rules and Levels.—Rustless Iron.—Rustless Oxidized Iron.—Safes.—
Safety Valves.—Sail Makers.—Sand and Emery Paper Manufacturers.

Imperial Rubber Co. 134 Liberty, George E.
Austin, Mgr.
Mineralized Rubber Co. 18 Cliff
New York Belting & Packing Co. 15 Park row
(see add front inside cover)
N. Y. Rubber Co. 84 Reade
Revere Rubber Co. (mfrs.) 64 Reade

RUBBER PACKING.

Greene, Tweed & Co. 83 Chambers (see add p.
53)
Gutta Pereha and Rubber Mfg. Co. 35 Warren
Imperial Rubber Co. 134 Liberty, George E.
Austin, Mgr
N. Y. Belting & Packing Co. 15 Park row (see
add front inside cover)
Pollock, Alexander, 15 Cortlandt
Revere Rubber Co. (mfrs.) 64 Reade
Roberts, Geo. I. & Bros. 471-473 Fourth av (see
add pp. 62, 63)

RULE MAKERS.

Belcher Bros. & Co. 62 Reade
Edwards, Ellis W. 126 Worth
Kerby & Brother, 51 Fulton
McIlwaine, D. B. 97 Chambers
Magee, Worall & Richards, 223 Grand
Soliman, E. G. 119 Fulton
Stanley Rule and Level Co. 29 Chambers

RULES AND LEVELS.

Stanley Rule and Level Co. 29 Chambers

RUSTLESS IRON.

Bower-Bariff, The, Rustless Iron Co. 31 Nassau
and 75 Cedar

RUSTLESS OXIDIZED IRON

Stuetzer, H. & Co. 474-494 Leonard, 49-61 Van
Pelt av, Brooklyn; 39 Dey, N. Y. City (see
add p. 40)

SAFES.

Brolly, William S. 188 Pearl
Butler, Wm. H. 79 Duane
Collapsible Safe and Cabinet Co. 52 Broadway
Diebold Safe and Lock Co. 79 Duane
Gross, Phillip H. 406 Broadway
Herring-Hall-Marvin Co. 365 & 367 Broadway,
and 375 South
Horn, M. M. 01 S. Fifth av
Lillie Safe Co. 201 E. 23d

Lipps, Chas. E. 74 Maiden lane and 5 Liberty
McKenna & Co. 50 E. 125th
Mittnacht & Quirk, 23 Spring
Mosler Safe Co. 787 Broadway
Mosler, Bahmann & Co 518 Broadway
Mossmann, J. M., 72 Maiden lane
National Safe and Lock Co. 406 Broadway
Phoenix Safe Co. 201 E. 23d
Quirk, Oscar C. 201 E. 23d
Wilder Safe Co. 201 E. 23d
Wiuder-Lillie & Patrick's Safes, 72 Maiden lane

SAFETY VALVES.

Ashcroft Mfg. Co. 111 Liberty
Eaton, Cole & Burnham, 82 Fulton
Jenkins Bros. 71 John
McShane, Henry, Mfg. Co. 625-627 Sixth av.
(see add p. 108)
Pollock, Alexander, 15 Cortlandt
Roberts, Geo. I. & Bros. 471-473 Fourth av. (see
add pp. 62, 63)
Safety Valve Co. Consolidated, 111 Liberty

SAIL MAKERS.

Thorp, Sam'l S. & Co. 157 South
Established 1830.

S. S. THORP & CO.,
SAIL MAKERS,
No. 157 SOUTH STREET,
NEW YORK.

AWNINGS, TENTS, FLAGS.

SAND AND EMERY PAPER MFRS.

Baeder, Adamson & Co. 67 Beekman
Behr-Herman & Co. 75 Beekman
Dalton, Mary, 178 Prince
Hewitt, C. B. & Bros. 48 Beekman
Piper, Buck & Co. 64 College pl

SAND DEALERS.

Areher Bros. 236 E. 35th
Brooks, William & Son, 613 W. 49th, and foot
W. 96th
Brown & Fleming, 129 Broad
Caldwell Bros. 2 Wall
Campbell, Robert A. 428 E. 48th

ROBERT A. CAMPBELL,
CONTRACTOR

AND DEALER IN ALL KINDS OF

BROKEN STONE, SAND & GRAVEL

Yard & Office, 428 East 48th St., N. Y.

Machine Broken Stone, Sand and Gravel Furnished by
Cargo or Cart Load at Lowest Prices, Orders Promptly At-
tended to.

Cornet, William H. 311 W. 54th
Gallagher, Cornelius, ft. E. 38th
Goebel, J. & Co. 129 Maiden lane
Goodwin, M. ft. E. 29th

SAND

Clean, Sharp Building, Suitable for Concrete Brick Work or Plastering and Paving, Delivered upon Short Notice, Cargoes of 200 Yards and Upwards, at any Point in New York or Vicinity.

M. GOODWIN,
OFFICE, FOOT OF EAST 29th ST.
Telephone, 275 18th St.

Haekett, Jos. T. ft. W. 12th
McLaughlin, James, 140 W. 67th
McLaughlin, John & Son, 346 E. 81st
Murray & Co. 263 Ave. C, and 656 E. 16th
Muson, Sarah A. 99 Ave. D
N. Y. Sand and Facing Co. 273 Cherry and 79 Rutgers
O'Brien, John J. 437 E. 61st
Powe, Geo. W. & Co. 66 South
Reilly, M. ft. E. 61st
Reynolds, Patrick, 309 E. 80th, ft. E. 62d, ft. E. 86th, ft. E. 107th and ft. W. 79th
Ryan, M. 605 W. 47th
Sackett, John, ft. E. 38th
Salisbury, John, jr. 420 E. 64th
Sheridan & Shea, 22 State
Vanwart & Rutherford, 59 Liberty
Whitehead Bros. ft. E. 38th

SAND SCREEN MFRS.

Anderson, H. C. & Co. 124 W. Broadway
Bataille, Achille, 122 W. Broadway (see add p. 23)
Estey, W. S. 65 Fulton (see add p. 24)
Howard & Morse, 45 Fulton (see add p. 5)

SANITARY PLUMBING APPLIANCES AND SUPPLIES.

Adee, Fred & Co. 90 Beekman (see add p. 109)
Albermarle Soapstone Co. 393 Pearl
Aspinall, Edwin, 98-100 Beekman
Beekman Salutory System Co. 56 Beekman (see add page)
Blessing, Geo. A. & Co. 290 Pearl (see add p. 110)
Colwell Lead Co. 63 Centre, 534 Pearl, 681 Sixth av
Dalton & Engersoll, 64 Gold
Darragh Water Filter Co. 1539 Broadway, and 553 W. 33d
DuBois Mfg. Co. 245 Ninth av. (see add p. 108)
Durham House Drainage Co. 158-160 W. 27th
Harrison, Robert C. 46 Cliff
Huber, Henry & Co. 81 Beekman (see add p. 110)

Loeke, Charles S. 106 W. 37th
Macknight Flintie Stone Co. 150 Broadway (see add p. 7)
McShane, Henry, Mfg. Co. 625-627 Sixth av (see add p. 108)
Meyer-Sniffen Co. Ltd. 46-48 Cliff
Moore, Frederick G. 78 Beekman
Mott, J. L. Iron Works, 88 Beekman
National Water Purifying Co. 145 Broadway
Peck Bros. & Co. 47 Cliff
Robinson Stoneware Co. 259 Water, Bklyn
Ronalds & Co. 56 Cliff
Sanitary Supply Co. Pulitzer bldg, room 112
Sanitas Mfg. Co. 54 Gold
Stewart Ceramic Co. 312 Pearl (see add p. 4)
U. S. Sanitary Filter Co. 182 South
Waefelaer, Louis, 54 Beekman
Williams & Co. 90 Ann

SANITARY RELIEF MATERIAL.

Beek, Fred & Co. c Seventh av and 29th, and Fifth av and 30th

SASH AND BLIND MFRS.

Albany Venetian Blinds, The, 150 Broadway
American Drier Co. 115 Broadway
Bradley & Currier Co. Ltd. 308 Hudson
Brown, George & Clifford, 46 E. 14th
Buffalo Door and Sash Co. Columbus av c W. 124th
Burlington Venetian Blind Co. 95 Nassau
Christman, George B. 1210 Second av
Fraser, S. D. 249 W. 28th
Hall's, William, Sons, ft. E. 106th
Keogh, C. B. Mfg. Co. The, 6-8 Howard
Kertscher & Co. 528-532 W. 24th
Lanzer, John, 2893 Third av

JOHN LANZER,

Manufacturer of

Sashes, Blinds, Doors and Trim.

Hardwood Veneer Doors and Store Fronts
a Specialty.

2893 Third Avenue, and 660 East 151st Street. L. Y.
See Advertisement, page 88.

Morstatt & Son, 227 W. 29th
Pirsson, F. M. & Co. Lincoln bldg. 1-3 Union sq c 14th
Smith, H. C. (The) Co. 62 Tenth av (see add p. 142)
Smith, Jarvis B. 176 E. 116th
The "Willer" Sliding Blinds, F. M. Pirsson & Co. agts. Lincoln bldg. 1-3 Union sq e. 14th
Venetian Blind Co. World bldg. room 91 (see add p. 87)
White, Potter & Paige, 18 E. 17th
Whitlock, Chas. 13 Nassau
Wilson, James G. 74 W. 23d (see add p. 88)

Sash Balance Manufacturers and Dealers.—Sash, Blind and Window Fasteners and Fittings.—
Sash Chain Manufacturers.

SASH ATTACHMENTS.

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Butler Hardware Co. 18 Warren
Chicago Hardware Mfg. Co. 150 Fifth av
Corbin, P. & F. 24 Murray
Crane & Halpin, 62 Reade
Graham, John H. & Co. 113 Chambers
Morton, Thomas, 65 Elizabeth
Newhall, Henry B. Co. 105 Chambers
Newman, Allen G. 1180 Broadway
Reading Hardware Co. 81 Reade
Russell & Erwin Mfg. Co. 45 Chambers
Sargent & Co. 37 Chambers & 15 Reade
Smith & Egge Mfg. Co., J. J. Halpin, agent,
62 Reade
Tower & Lyon, 95 Chambers & 77 Reade
Young, G. Wright Co. 50 Broadway

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See Advertisement, page 86.

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Butler Hardware Co. 18 Warren
Chicago Hardware Mfg. Co. 150 Fifth av
Corbin, P. & F. 24 Murray
Crane & Halpin, 62 Reade
Gardner Sash Balance Co. 50 Broadway
Graham, John H. & Co. 113 Chambers
Newman, Allen G. 1180 Broadway
Parker, Charles Co. 97 Chambers
Reading Hardware Co. 81 Reade
Russell & Erwin Mfg. Co. 45 Chambers
Sargent & Co. 37 Chambers & 15 Reade
Smith & Egge Mfg. Co. 62 Reade, J. J. Halpin, agent
Tiebout, W. & J. 16 Chambers
Tower & Lyon, 95 Chambers & 77 Reade
Young, G. Wright Co. 50 Broadway

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See Advertisement, page 86.

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Champion Safety Lock Co. 92 Chambers
Chicago Hardware Mfg. Co. 150 Fifth av
Corbin, P. & F. 24 Murray
Crane & Halpin, 62 Reade
Doseher, Martin, 88 Chambers
Dudley Shutter Worker Co. 5 Beekman
Harvey Fastening Co. Central bldg. 143 Liberty
Humanson Beckley Mfg. Co. 80 Chambers
Kuhn, M. G. 214 Centre
Maltby, Henley & Co. 20 Warren
Mix, G. I. & Co. 82 Chambers
Newman, Allen G. 1180 Broadway
Parker, Chas. Co. 97 Chambers
Payson Mfg. Co. 97 Chambers
Peck, Stow & Wilcox Co. 27 Chambers
Smith & Egge Mfg. Co. 62 Reade, J. J. Halpin, agent
Stanley Works, 79 Chambers
Tiebout, W. & J. 16 Chambers
Tower & Lyon, 95 Chambers
Union Hardware Co. 95 Chambers
Van Wagoner & Williams, 14 Warren
West Side Arch. Iron Works, 559 W. 33d
 (see add p. 29)

SASH CHAIN MFRS.

Butler Hardware Co. 18 Warren
Moore & Barnes Mfg. Co. 112 Chambers
Morton, Thomas, 65 Elizabeth
Smith & Egge Mfg. Co., J. J. Halpin, agent,
62 Reade
Solid Link Chain Mfg. Co. 51 John & 36 Gold
Young, G. Wright Co. 50 Broadway

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See Advertisement, page 86.

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DeWitt Wire Cloth Co. 32 Reade
Elizabethport Cordage Co. 46 South
Hooper Co. 235 Pearl & 120 John
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Tucker & Carter Cordage Co, 98 Pine
Walls, Wm. Sons, 113 Wall (see add p. 74)

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American Plate & Window Glass Co, 158 S.
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Burlington Blind Co, 95 Nassau
Campbell Door & Sash Co, Ninth av & 124th
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Emer, Anthony, 136 Liberty
Falk, Louis, 771 E. 165th
Fraser, S. D. 249 W. 28th
Gray, Jenks & Co, Lincoln bldg. 1-3 Union
sq c. 14th (see add p. 93)
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Hall's, Wm. Sons, ft. E. 106th
Hall & Garrison, 32 Warren
Hauson, John, 422 E. 92d
Hautsche, E. G. 733 First av
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McElwee Mfg. Co, 507 W. 35th
McGregor & Mitchell, jr, 91 Cliff
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Safety Hatch Door Co, 45 Duane (see add p.
21)
Schaettler, F. 245-247 W. 28th
Serrell, A. T. & Son, Eleventh av & 58th
Short, Thomas J. 278 Ninth av
Smith, Jarvis B. 176 E. 116th
Smith, H. C. Co. The, 62 Tenth av (see add
p. 142)
Standard Elevator Door Co, 136 Liberty (see
add p. 22)
Stark, John E. 4 W. 22d
Sternkopf, Wm. N. r 56 Attorney
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Wanamaker, Garrett A. 522 W. 43d

Whitlock, Charles, 13 Marion

Wilson, James G. 74 W. 23d (see add p. 88)

Woodruff, Conklin & Bayer, 151 Lewis

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Chicago Hardware Mfg. Co. 150 Fifth av

Corbin, P. & F. 24 Murray

Crane & Halpin, 62 Reade

Giant Sash Lock, 62 Reade

Graham, John H. & Co. 113 Chambers

Newman, Allen G. 1180 Broadway

Russell & Frwin Mfg. Co. 45 Chambers

Sargent & Co. 37 Chambers and 15 Reade

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Tower & Lyon, 95 Chambers and 77 Reade

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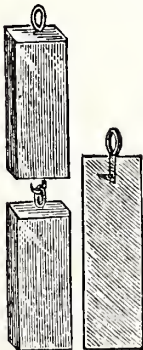
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 p. 95)
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 Bromhorst, & Co. 140 Attorney and 191 Stanton
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 Christman, George B. 1210 Second av
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 Newell, D. C. & Sons, The Hudson River Mill
 & Lumber Co. ft. W. 19th (see add p. 103)
 Peek, Eben, 24th st. and Eleventh av (see add
 p. 104)
 Poillon, C. & R. 450 Water
 Pritchard, E. M. E. 138th st. and Mott av
 Reccius, Waldemar, Eleventh av and 24th
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 DuBois Mfg. Co. 245 Ninth av (see add p. 108)
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 Goulds Mfg. Co. The, 60 Barclay
 Haydenville Mfg. Co. 73 Beekman
 Lowe & Bro. 263 W. 12th
 McShane, Henry, Mfg. Co. 625-627 Sixth av (see add p. 108)

Mott, J. L. Iron Works, 88 Beekman

Sanitas, Mfg. Co. 54 Gold

Sexton, Michael, 1112 Third av

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Adee, Fred. 90 Beekman (see add p. 109)

American Tube and Iron Co. 98 John

Blessing, Geo. A. & Co. 290 Pearl (see add p. 110)

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Cooke, Richard K. 48 Centre

Dane & Townsend Co. 76 John and 29 Platt

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Fox, John, 160 Broadway

Jamer, Jacob, 84 John

McMann, T. R. & Bro. 60 Gold

McNab & Harlin Mfg. Co. 56 John

McNeal Pipe and Foundry Co. 52 Wall

McShane, Henry, Mfg. Co. 625-627 Sixth av (see add p. 108)

Mellert Foundry and Machine Co. 160 Broadway

Moffat, Frank D. & Co. 81 Fulton

Mott, J. L. Iron Works, 88 Beekman

Nason Mfg. Co. 71 Beekman

National Tube Works Co. 160 Broadway

Oil City Tube Co., 32 Cortlandt

Pancoast & Rogers, 28 Platt and 15 Gold

Sanitas Mfg. Co. 54 Gold

Simmons, John, Co. 110 Centre (see add opp. Tenth Ward)

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Colman, Chas. H. & Co. 145 Broadway (see add pp. 136, 137)

Duffy, J. P. & Co. 138th, c Railroad av

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McShane, Henry, Mfg. Co. 625-627 Sixth av (see add p. 108)

Nelson, William, 7 Chambers

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Person, Orrin D. Mohawk bldg. 160 Fifth av (see add p. 139)

Robbins, Geo. B. & Co. 136th and Third av (see add p. 122)

Salamander Works, 61 Bethune

Sanitas Mfg. Co. 54 Gold

Stewart & Co. Manhattan Pottery, 540 W. 19th, 312 Pearl, and ft. W. 18th (see add p. 4)

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(see add p. 139)
Robbins, Geo. B. & Co. 136th and Third av
(see add p. 122)
Salamander Works, 61 Bethune
Sanitas Mfg. Co. 54 Gold
Stewart & Co. Manhattan Pottery, 540 W. 19th,
312 Pearl, and ft. W. 18th (see add p. 4)
U. S. Fire Clay Co. New York office 145 Broad-
way, Charles H. Colman & Co. agts. (see add
p. 137)

SHADE MFRS.

Caleographie Window Shade Co. 260 Canal
Closter Shading Co. 338 Broadway
Fuessel, George G. 333 Fourth av. and Vander-
bilt av. and 178th
Hedenberg, Frank B. 116 Chambers
Hunninghaus & Lindeman, 245 Canal
Manhattan Shade Cloth Co. ft. E. 135th
Nevius & Haviland, 500 W. 42d
Oswego Shade Cloth Co. 353 Broadway
Wemple, Jay C. Co. 537-539 Broadway
Wiggins, H. B. Sons, 124 Clinton pl

SHADE ROLLERS MFRS.

Nevius & Haviland, 500 W. 42d

SHADE ROLLERS, SELF- ACTING, MFRS.

Hartshorn, Stewart, 486 Broadway
Wemple, Jay C. Co. 537-539 Broadway

SHADE ROLLERS, SPRING.

Hartshorn, Stewart, 486 Broadway

SHAFTING, PULLEYS AND HANGERS.

Akron Iron Co. 122 Liberty
Birmingham Iron Foundry, 95 Liberty
Brown, A. & F. (mfrs.) 17 Dey
Cooke & Co. 163 Washington
Cranston & Co. (friktion pulleys) 57-61 Park
Davenport & Treney Co. (machine moulded
pulleys) 745 E. 11th
Dill, J. T. 145-149 Centre
Disnosky, Charles, 218 Centre
Eddy, George B. (dealer) 398 Madison
Ehlsam, F. W. 78 Elm
Fiedlerlein, F. 462 Tenth av
Fleming, W. R. & Co. (mfrs. agts.) 164 Mail
and Express bldg. Fulton

Fox, Benjamin, 513-517 W. 34th
Frisbie, D. Co. 112 Liberty (see add p. 12)
Garvin Machine Co. The, Laight and Canal
Gray, Albert, 150 William
Hill Clutch Works (mfrs.) 18 Cortlandt
Howard Foundry and Machine Works, 114
Liberty (see add p. 19)
Hvass, Charles, 509 E. 18th
Jayne, William (dealer) 110 Liberty
Link Belt Engineering Co. 49 Dey
Lovejoy, John F. & Co. 102 Chambers
Lyall, J. & W. 540 546 W. 23d
Mackinnon, J. A. Machinery Co. Liberty e
West
McCabe, J. J. (dealer) 68 Cortlandt
McMurray, C. F. 106 Liberty
Moffat, Frank D. & Co. 81 Fulton
Monthemont, E. 117 Walker
Muller, Jacob, 418-420 E. 62d (see add p. 52)
Pierson & Co. (shafting) 24-27 West
Place, George. Equitable bldg. 120 Broadway
Prentiss Tool and Supply Co. (dealers) 115
Liberty
Pryibil, P. 512-524 W. 41st
Putnam Machine Co. 115 Liberty
Reedy, J. W. Elevator Mfg. Co. The, 31-33
Tenth av
Roberts, Geo. I. & Bros. 471-473 Fourth av (see
add pp. 62, 63)
Rogers, J. F. & Co. 107 Liberty
Thompson, Frank, 178 Centre
Thompson, Richard, Co. Ltd. (steel shafting)
105 Chambers
Union Drawn Steel Co. (steel shafting) 102
Chambers
Whittier Machine Co. 93 Liberty
Wilson & Roake, 261 Front
Wood, E. J. (dealer) 243 Broadway
Woods, S. A. Machine Co. 91 Liberty

SHED AND DOCK BUILD- ERS.

Cregin, C. A. & T. (dock) 44 Broadway
DuBois, Henry, Sons (dock) 119 South
Engle, M. & Co. (dock) 16 Beaver
Fearon & Jenks (shed and dock) 62 South
Flaherty, John W. (dock) 41 Peek sl
Gillies, John & Son (dock) 31 Broadway
Monks, John & Son (dock) 130 Water
Roosevelt, Warren (dock) 16 Beaver
Simpson, J. E. & Co. (dock) 35 Broadway
Staats, R. P. & J. H. (dock) 29 Broadway (see
add p. 133)
Tietjen & Lang Dry Dock Co. ft. 14th, Hoboken
(see add p. 141)
Trestle, Dock and Pile Works (dock) 143
Liberty
Walls & Van Riper (dock) 157 E. 126th
Walsh, T. & A. (dock) 114 Wall
White, I. Eugene (dock) 16 Beaver

SHEET AND BOLT COPPER

American Tube Works, 20 Gold
Bleecker, Augustus & Sons, 78 Front

Sheet Iron and Boiler Plate.—Sheet Iron and Steel Roofing.—Sheet Iron Clad Wood Work.
—Sheet Iron Dealers.—Sheet Iron, Galvanized.—Sheet Iron (Kalamein).—Sheet Iron Mfrs.

Donegan & Swift, 11 Murray
Eureka Tempered Copper Co. 35 Broadway
Hendricks Bros. 49 Cliff
Lewisohn Bros. 83 Fulton
New Haven Copper Co. 294 Pearl
Randolph & Clowes, 131 Worth
Revere Copper Co. 242 South
Taunton Copper Mfg. Co. 232 South
Wallace & Sons, 29 Chambers and 5 Reade

SHEET BRASS AND BRASS RODS.

Aluminum Brass and Bronze Co. Stewart bldg.
53 Chambers
American Tube Works, 20 Gold
De Witt Wire Cloth Co. 32 Reade (see add p. 26)
Donegan & Swift, 11 Murray
Edgewood Co. 1 W. 34th
Gould's, M. Son & Co. 105 Duane
Hendricks Bros. 49 Cliff
Holmes, Booth & Haydens, 25 Park pl and 25 Murray
Knapp, John H. r 17 John
Manhattan Brass Co. 338 E. 28th
New York Brass and Wire Works, 177 Grand
Randolph & Clowes, 131 Worth
Wallace & Sons, 29 Chambers and 5 Reade
Waterbury Mfg. Co. 79 Chambers

SHEET IRON AND BOILER PLATE.

Whitney, A. R. Co. 29 Broadway

SHEET IRON AND STEEL ROOFING.

Hedden, Eugene B. 35 Broadway (see add p. 42)
Moorehead & McCleane Co. 81 John
Moseley Iron Bridge and Roof Co. 5-7 Dey (see add p. 49)
N. Y. Iron Roofing and Corrugating Co. 29 Broadway (see add p. 51)
Wallis Iron Works, 192 Broadway (see add p. 38)
Wines, W. D. 44 Centre (see add opp. Seventh Ward)

SHEET IRON CLAD WOOD WORK.

West Side Arch. Iron Works, 550 W. 33d (see add p. 29)

SHEET IRON DEALERS.

Bruce & Cook, 186-190 Water and 248-250 Pearl
Coddington, T. B. & Co. (wholesale) 27 Cliff
Cooney, Daniel F. 88 Washington
De Milt, H. R. & Co. 238 Water
Dickerson, Van Dusen & Co. 29-31 Cliff
Fuller Bros. & Co. 139 Greenwich
Lefferts, Marshall & Co. 491-503 Cherry & 100 Beekman
Merchant & Co. 247 Pearl
Naylor & Co. 45 Wall
Phelps, Dodge & Co. 11-13 Cliff
Thomson, A. A. & Co. 215 Water

SHEET IRON, GALVANIZED.

Abendroth & Root Mfg. Co. 28 Cliff (see add opp. Key to Maps)
Bruce & Cook, 248 Pearl
De Milt, H. R. & Co. 238 Water
Fuller Bros. & Co. 139 Greenwich
Jersey City Galvanizing Co. 98 John
Lefferts, Marshall & Co. 100 Beekman
Merry, John & Co. 535 W. 15th (see add p. 66)
Moorehead & McCleane Co. 81 John
Nelson, O. 295 Pearl
Tiebout, W. & J. 16 Chambers
Whitney, A. R. & Co. 29 Broadway

SHEET IRON (KALAMEIN).

West Side Arch. Iron Works, 553 W. 33d (see add p. 29)

SHEET IRON MFRS.

De Milt, H. R. & Co. 238 Water
Lefferts, Marshall & Co. (agts.) 491-503 Cherry and 100 Beekman
Merry, John & Co. (galvanized) 535-547 W. 15th (see add p. 66)
Moorehead & McCleane Co. 81 John
Muhl, J. & Son, 329 E. 33d (see add p. 50)
New York Iron Roofing and Corrugating Co. 29 Broadway (see add p. 51)
Phelps, Dodge & Co. 11-13 Cliff
Schwoerer, J. 8 E. 2d (see add p. 142)

SHEET IRON WORKERS.

Abendroth & Root Mfg. Co. 28 Cliff (see add opp. Key to Ward Atlas)
Abendroth Bros. 109 Beekman
Albonesi, Anton, jr. 628 Water
Alsfield, Charles, jr. 296 Third av
Auderton, Ralph L. 210 Grand
Becker, J. C. L. 174 E. 87th

Beebe Range and Furnace Co. 119 Beekman
 Berginud, Charles, 164 E. 48th
 Bickelhaupt, Geo. 243-245 W. 47th (see add p. 6)
 Blechmer, Albert, 2985 Third av
 Boll, Oscar, 175 Third av
 Boltens, G. & J. R. Imp. Hot Water Heater, 114 Liberty, Geo. H. Raymond, mgr. (see add p. 69)
 Borkel, John, 42 E. Houston
 Bowsky, L. 843 Third av
 Boynton Furnace Co. 207-209 Water
 Brandt, Fred. 163 E. 85th (see add p. 166)
 Briggs, Alfred A. 122 E. 129th
 Cassidy, Charles O. C. 122 E. 11th
 Corey, Usal & Co. 210 Water
 Cort, J. H. cor. Water and Beekman
 Cox, Abraham, Stove Co. 284 Pearl
 Dreyer, Louis, 339 W. 18th
 Dusenbury, George, 28 Church
 Ely & Ramsay Co. The, 247 Water
 Empire Metal Working Co. 76 Fifth av
 Farrell, M. J. & Co. 104 E. 13th
 Fischer, Geo. & Bro. 209 Forsyth
 Foerster Joseph, 866 Fifth av
 Germania Roofing Co. 16 Grand
 Gregory, James, 140 W. 38th
 Hagan, Thomas, 227 E. 56th
 Halliday, M. 218 E. 9th
 Harrison, M. & Son, 214 E. 52d
 Harvey Furnace Co. 1345 Broadway
 Hayes, Geo. 71 Eighth av (see add p. 8)
 Higgins & Co. 379 Lexington av (see add p. 67)
 Hirt & Hadgor, 279 Av. B
 Jacob, August, 260 E. 78th
 Kewan, Matthew C. 106 W. 27th
 Kramer, Louis, 98 Norfolk
 Lanrowitz & Fine, 170 Forsyth
 Lincoln, J. D. & C. C. 236 Water
 Ludwig, Adolph, 32 John
 Lyles & Mills, 231 William
 Lyon, J. G. 248 Water
 McCallum, John, 426 Washington
 MacGregor Furnace Co. 115 Beekman
 Malcolm, Robert, 173 Christopher

ROBERT MALCOLM, SHEET IRON WORKER

Tin and Coppersmith, Plumbing and Gas Fitting. Engineers' Supplies a Specialty.

**No. 173 CHRISTOPHER ST.,
NEW YORK.**

Mathews, James & Son, 510 E. 20th
 Merry, John & Co. 535-547 W. 15th (see add p. 66)
 Morio, George, r 124 Cannon
 Moritz, Isaac, 44 Montgomery, 33 John
 Morrow, John, 225 W. 50th
 Mott, J. L. Iron Works, 88 Beekman
 Munsell, Eugene & Co. 218 Water
 Mullins, Wm H., Julius T. Wagner, manager, 108 Chambers
 National Sheet Metal Roofing Co. 9 Cliff
 Nicholson & Galloway, 646 Hudson
 Northrup, Henry S. 30 Rose (see add opp. Fourth Ward)
 Nugent, T. 214 E. 80th
 N. Y. Sheet Iron Works, 197 Wooster (see add p. 42)

O'Brien, M. J. 827 Sixth av
 Ottiwell, John D. 199 Third av
 Pasco & Palmer, 1293 Broadway
 Pease, J. E. Furnace Co. 205 Water
 Pierce, Butler & Pierce Mfg. Co. 24 Duane (see add p. 68)
 Prenter, John, 300 W. 120th
 Richards, Samuel G. 115 W. 28th
 Richardson & Boynton Co. 234 Water
 Richardson & Morgan Co. 92 Beekman
 Sacks, H. 1483 Second av
 Schmidt, Herman, 203 Forsyth
 Schwoerer, A. 120 Av. A
 Schwoerer, J. 8 E. 2d (see add p. 142)
 Sherwood Bros. 170 E. 62d
 Simonds Mfg. Co. The, 50 Cliff
 Strachan Robert W. 355 Eighth av
 Stradler, John E. jr. 449 E. 77th
 Teets, Albert & Co. 605 Eighth av
 Teets, Samuel A. 507 Eighth av
 Thateher Furnace Co. 33 Peck st
 Turno, Henry & Co. 222 Second av
 Vincent, William E. D. 445 W. 45th
 Werner, George F. 408 E. 77th
 West Side Arch. Iron Works, 553 W. 33d (see add p. 29)
 Wines, William D. 44 Centre (see add opp. Seventh Ward)
 Wolff, Charles, 3-7 Rector

SHEET LEAD.

Adee, Fred. 90 Beekman (see add p. 109)
 Blessing, Geo. A. & Co. 290 Pearl (see add p. 110)
 Colwell Lead Co. 63 Centre, 524 Pearl and 681 Sixth av
 DuBois Mfg. Co. 245 Ninth av (see add p. 108)
 Huber, Henry, Co. 81 Beekman (see add p. 110)
 Hussey, William H. 135 W. 30th
 Locke, Chas. 106 W. 37th
 McShane, Henry, Mfg. Co. 625-627 Sixth av (see add p. 108)
 Mott, J. L. Iron Works, 88 Beekman
 N. Y. Smelting & Refining Co. cor. Jane and West (see add p. 532)

SHEET METAL DEALERS AND MFRS.

Donegan & Swift, 11 Murray
 Mundt, Charles & Sons, 28-90 Walker (see add p. 52)

SHEET METAL ORNA- MENTS.

American Pin Co. 62 Walker
 Briggs, Alfred A. 122 E. 129th
 Empire Metal Working Co. 76 Fifth av
 Farrell, M. J. & Co. 104 E. 13th

Hecht, M. & Bro. 529 Broadway
 Hirt & Hagdom, 279 Ave. B
 Hopfensack, Ernest, 34 S. Fifth av
 Kayser, Louis M. 90 Walker
 Lane Mfg. Co. 350 Canal
 Ludwig, Adolph, 33 John
 McCallum, John & Co. 426 Washington
 Manhattan Brass Co. 338 E. 28th
 Messer, Louis & Co. 174 Worth
 Mullens, Robert M. r 158 Wooster
 Mullins, W. H. 108 Chambers, J. T. Wagner,
 agt (see add opp. 23d Ward, Part 2)
 Northrup, Henry S. 30 Rose (see add opposite
 Fourth Ward)
 Osborn, Geo. R. 335 Broadway
 Plant Bros. 465 Greenwich
 Prince & Kinkel Iron Works, 729-731 First av
 (see add p. 51)
 Saldini, Peter, 225 Thompson
 Schmidt, Julius C. 527 Pearl
 Schmidt, Philip, 511 Pearl
 Schwoerer, J. 8 E. 2d (see add p. 142)
 Universal Fastening Co. 241 Centre
 Vanderbilt, Isaac T. 96 Spring
 Vogeler, Waldemar, 306 E. 95th
 Winzer & Rothenstein, 338 Broadway

SHEET METAL STATUARY.

Briggs, Alfred A. 122 E. 129th
 Hirt & Hagdom, 279 Ave. B
 Mullins, William H. 108 Chambers, Julius T.
 Wagner, agt (see add opp. 23d Ward, Part 2)
 Williams, John, 544-556 W. 27th (see add p.
 36)

SHEET METAL WORKERS.

Arch. Sheet Metal Works, 205 E. 99th
 Bickelhaupt, George, 245 W. 47th (see add p. 6)
 Borkel, John, 42 E. Houston
 Brandt, Fred, 169 E. 85th (see add p. 106)
 Brendal, Michael, 509 W. 28th
 Briggs, A. A. 122 E. 129th
 Cassidy, Charles O. C. r 122 E. 11th
 Conover, J. S. & Co. 28-30 W. 23d (see add p.
 85)
 Dreyer, Louis, 339 W. 18th
 Empire Metal Working Co. 76 Fifth av
 Fischer, George & Brother, r 209 Forsyth
 Gregory, James, 140 W. 38th
 Hagan, Thomas, 227 E. 56th
 Halliday, Mitchell, 218 E. 9th
 Harrison, M. & Son, 214 E. 52d
 Hayes, George, 71 Eighth av (see add p. 8)
 Honey Co. 76 Greenwich
 Jacob, August, 260 E. 78th
 Kervan, Matthew C. 106 W. 127th
 McCallum, John & Co. 426 Washington
 Matthews, James & Son, 510 E. 20th
 May, William, 609 W. 52d
 Molten, Charles, 129 Elm and 10 Howard
 Morrow, John, 225 W. 50th
 National Sheet Metal Roofing Co. 9 Cliff
 Nicholson & Galloway, 646 Hudson
 Northrup, Henry S. 30 Rose (see add opposite
 Fourth Ward)

O'Crowley, M. F. 138 Broad

M. F. O'CROWLEY, SHEET METAL WORKER, 138 Broad St., near South St., N. Y.

Roofing, Ventilation, Gas Fitting, Range, Heater and
 Furnace Work, Electric Bells and Speaking Tubes, Deco-
 rative Metal Ceilings, Galvanized Iron Boat Pumps,
 Sheet Brass and Copper Work for Yachts and Boats,
 General Repairing.

Ottiwell, John D. 199 Third av
 Palmer's, J. F. Son, 12 E. 17th
 Plenty Horticultural & Skylight Works, The,
 Central bldg, 143 Liberty
 Prince & Kinkel Iron Works, 729-731 First av
 (see add p. 51)
 Schuennemann, Chas. H. 2-4 Howard
 Schwoerer, Anthony, 120 Ave. D
 Schwoerer, J. 8 E. 2d (see add p. 142)
 Vincent, William E. D. 445 W. 45th
 Williams, John, 544-556 W. 27th (see add p. 56)
 Wines, William D. 44 Centre (see add p. oppo-
 site Seventh Ward)
 Wisel, A. & Co. 26 Cliff
 Wolff, Charles, 3-7 Reclor

SHEET RUBBER.

American Rubber Co. 78 Reade
 Boston Belting Co. 100 Chambers
 Camp & Crane, 27 Maiden la
 Columbia Rubber Works, 65 Reade
 Dickinson Hard Rubber Co. 25 Mercer
 Goodrich Hard Rubber Co. 11 Mercer
 Goodyear Rubber Co. 487 Broadway
 Gutta Percha & Rubber Mfg. Co. 35 Warren
 Hodgman Rubber Co. 459-461 Broadway
 Imperial Rubber Co. 134 Liberty, George E.
 Austin, mgr
 N. Y. Belting & Packing Co. 15 Park row (see
 add inside front cover)
 Parker, Stearns & Sutton, 228-229 South
 Revere Rubber Co. 64 Reade
 Roberts, Geo. I. & Bros. 471-473 Fourth av (see
 add pp. 62, 63)
 Sinclair Rubber Co. 136 Chambers
 Union India Rubber Co. 487 Broadway
 Waterbury Rubber Co. 49 Warren (see add p.
 72)
 Zephyr Rubber Mfg. Co. 336 W. 40th

SHEETING AND ROOFING BUILDING PAPERS.

Childs, William H. H. 73 Maiden la
 Hewitt, C. B. & Bros. 48 Beckman
 Mahan Parchment & Moth Paper Works, 6
 Reade
 New, T. Mfg. Co. 874 B'way, McIntyre bldg
 Rankin, William H. 91 Maiden la
 Stewart, William H. 182 Front
 Sturges, Westcott & Harold Co. 192 West
 Swan, Alfred F. 38 Dey
 White, George A. 36 John

Sheeting, Asbestos.—Sheeting, Mineral Wool Fire Proofing.—Sheeting, Red Rosin, Sized
Roofing Material —Shingle Stains.—Shingle Stains, Creosote.—Shingles, Metal.—
Shingles, Wood.—Shower and Needle Baths, Plumbers' Supplies.

SHEETING, BRASS AND COPPER.

Ansonia Brass & Copper Co. 19 Cliff and 35
Gold
Bleecker, Augustus & Sons, 78 Front
Eureka Tempered Copper Co. 35 Broadway
Hendricks Bros. 49 Cliff
Lewisohn Bros. 83 Fulton
New Haven Copper Co. 294 Pearl
Randolph & Clowes 131 Worth
Revere Copper Co. 242 South
Taunton Copper Mfg. Co. 232 South
Wallace & Sons, 29 Chambers and 5 Reade

SHEETING, ASBESTOS.

Aeme Covering Works, 82 John
Asbestos Felting Works, 79 Maiden la
Gilmour, Robert M. 82 John
Johns, H. W. Mfg. Co. 87 Maiden la
New, T. Mfg. Co. 874 B'way, McIntyre bldg
Stewart, Wm. H. 182 Front
Sturges, Westcott & Harrold Co. 192 West
White, George A. 36 John

SHEETING, MINERAL WOOL FIRE PROOFING.

Asbestos Felting Works, 79 Maiden la
Gilmour, Robert M. 82 John
Johns, H. W. Mfg. Co. 87 Maiden la
U. S. Mineral Wool Co. 2 Cortlandt (see add p.
112)
White, George A. 36 John

SHEETING, RED ROSIN, SIZED ROOFING MATE- RIAL.

Gilmour, Robert M. 82 John
Johns, H. W. Mfg. Co. 87 Maiden la
New, T. Mfg. Co. 874 B'way, McIntyre bldg

SHINGLE STAINS.

Berry Bros. 252 Pearl
Bridgeport Wood Finishing Co. The, 240 Pearl
Cabot, Samuel, 70 Kilby st. Boston
Crocket, David B. Co. 84 William
Fisher, Erskine W. 18 Broadway (see add p.
117)
Pratt & Lambert, 47 John and 5 Dutch
Schwartz, E. H. 23 Av. A (see add p. 106)

SHINGLE STAINS, CRE- OSOTE.

Cabot, Samuel, 70 Kilby st. Boston

SAM'L CABOT,
MANUFACTURING CHEMIST
Building Specialties,
CREOSOTE SHINGLE STAINS.
70 Kilby Street, BOSTON.
Schwartz, E. H. 23 Av. A (see add p. 106)

SHINGLES, METAL.

Briggs, A. A. 122 E. 129th
Bruce & Cook, 186 Water
Cortwright Metal Roofing Co. 83 Cedar
Hainsley Roofing Co. 18 Cliff
Mullins, W. H. 108 Chambers, J. T. Wagner,
Agt
National Sheet Metal Roofing Co. 9 Cliff

SHINGLES, WOOD.

Millard's, W. Sons, 45 Broadway
Vanderbilt & Hopkins, 120 Liberty

SHOWER AND NEEDLE BATHS, PLUMBERS' SUPPLIES.

Adee, Fred. 90 Beekman (see add p. 109)
Blessing, Geo. A. & Co. 290 Pearl (see add p.
110)
Cassidy & Adler, 490 Sixth av. and 533 W. 55th
Du Bois Mfg. Co. 245 Ninth av (see add p. 108)
Huber, Henry & Co. 81 Beekman (see add p.
110)
Locke, C. 106 W. 37th
McShane, Henry, Mfg. Co. 625-627 Sixth av
(see add p. 103)
Mayer, Lane & Co. 119 Walker
Meyer, Sniffen Co. Ltd. 48 Cliff
Mott, J. L. Iron Works. 88 Beekman
Sanitary Supply Co. 112 Pulitzer bldg
Sanitas Mfg. Co. 51 Gold

SHUTTERS, FIRE PROOF.

Aetna Iron Works, 298-300 E. 64th (see add p.
51)
Althause, S. B. & Co. 101-103 Thompson (see
add p. 27)
Bowes, John J. 227-229 W. 29th (see add p. 43)

Clark, Bunnett & Co. 162-164 W. 27th (see add p. 45)
 Cornell, J. B. & J. M. 141 Centre, 26th bet. 10th and 11th av (see add pp. 35, 37, 39)
 Jackson Arch. Iron Works, 315 E. 28th (see add p. 31)
 Lyon, W. E. 202 E. 46th (see add p. 46)
 Moseley Iron Bridge & Roof Co. 5-7 Dey (see add p. 49)
 Muhl, J. & Son, 329 E. 33d (see add p. 50)
 Prince & Kinkel Iron Works, 729-731 First av (see add p. 51)
 Wilson, James G. 74 W. 23d (see add p. 88)

SHUTTERS REVOLVING.

Etna Iron Works, 298-300 E. 64th (see add p. 51)
 Althause, S. B. & Co. 101-103 Thompson (see add p. 27)
 Bowes, John J. 227-229 W. 29th (see add p. 43)
 Central Iron Works, 203 E. 30th (see add p. 44)
 Clark, Bunnett & Co. 162-164 W. 27th (see add p. 45)
 Cornell, J. B. & J. M. 141 Centre, 26th st bet. 10th and 11th avs (see add pp. 35, 37, 39)
 Dimond, J. G. & T. 209 W. 33d
 Jackson Arch. Iron Works, 315 E. 28th (see add p. 31)
 Keogh, C. B. Mfg. Co. 6 and 8 Howard
 Lindsay, W. A. 61 Warren
 Lyon, W. E. 202 E. 46th (see add p. 46)
 Morstadt & Son, 227 W. 29th
 Muhl, J. & Son, 329 E. 33d (see add p. 50)
 Nichols, Samuel & Son, 66 W. 3d
 Pirsson, F. M. & Co. Lincoln bldg. 1-3 Union sq cor 14th
 Union Iron Works, 29 Broadway
 West Side Arch. Iron Works, 553 W. 33d (see add p. 29)
 Westing, Theo. 449-455 W. 41st
 Wilson, James G. 74 W. 23d (see add p. 88)

SHUTTERS, ROLLING.

Althause, S. B. & Co. 101-103 Thompson (see add p. 27)
 Clark, Bunnett & Co. 162-164 W. 27th (see add p. 45)
 Cornell, J. B. & J. M. 141 Centre, 26th st. bet. 10th and 11 avs (see add pp. 35, 37, 39)
 Jackson, Arch. Iron Works, 315 E. 28th (see add p. 31)
 Muhl, J. & Son, 329 E. 33d (see add p. 50)
 Pirsson, F. M. & Co. Lincoln bldg. 1-3 Union sq. cor. 14th
 Prince & Kinkel Iron Works, 729-731 First av (see add p. 51)
 Wilson, James G. 74 W. 23d (see add p. 88)

SIDEWALK AND VAULT LIGHT MFRS.

Dale Tile Mfg. Co. Ltd. 398 Broome (see add p. 49)
 French, J. C. & Son, 452 Canal (see add p. 47)
 Lyon, W. E. 202 E. 46th (see add p. 46)
 Mark, Jacob, 7 Worth (see add p. 30)
 Muhl, J. & Son, 329 E. 33d (see add p. 50)
 Owens, Alexander, & Co. 71 King
 Tice & Jacobs, 510 Pearl (see add p. 32)

SIDEWALK LIGHTS.

Althause, S. B. & Co. 101-103 Thompson (see add p. 27)
 Atlantic Iron Works, 703 E. 12th
 Bowes, John J. 227-229 W. 29th (see add p. 43)
 Cornell, J. B. & J. M. 141 Centre, 26th st. bet. 10th and 11th avs (see add pp. 35, 37, 39)
 Dale Tile Mfg. Co. Ltd. 398 Broome (see add p. 49)
 French, J. C. & Sons, 452 Canal

J. C. FRENCH & SONS,

Manufacturers of

VAULT, SIDEWALK, FLOOR and SKY LIGHTS,
 OF EVERY DESCRIPTION.

No. 452 CANAL STREET,
 NEW YORK.

See Advertisement, page 47.

Hafers, Chris. 407 W. 37th (see add p. 34)
 Jackson Arch. Iron Works, 315 E. 28th (see add p. 31)
 Langill T. W. 406 W. 17th
 Lindsay, W. A. 61 Warren
 Lyon, W. E. 202 E. 46th (see add p. 46)
 Mark, Jacob, 7 Worth (see add p. 30)
 Muhl, J. & Son, 329 E. 33d (see add p. 50)
 Nichols, Samuel & Son, 66 W. 3d
 Owens, Alex. Co. 218 Hudson
 Tice & Jacobs, 510 Pearl (see add p. 32)
 Westing, Theo. 449-455 W. 41st

SILVER PLATING.

Hogan, John, 159 E. 52d

JOHN HOGAN, HAND SILVER PLATER.

Door Knobs, Bell Pulls, Hinges, House Trimmings, &c.,
 Plated with Heavy Sheet Silver.

No. 159 EAST 52d STREET,

Between Third and Lexington Aves., NEW YORK.

Skylight Frames, Iron.—Skylight Glass.—Skylight Guards and Screen Wire.—Skylights and Horticultural Works.

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M. F. Westergren.

F. L. Anderson.

The Architectural Sheet Metal Works,
Manufacturers of

METALLIC SKYLIGHTS

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Telephone, 141-59th.

NEW YORK.

Corrugated Iron Work. Cornices, Roofing, Etc.

Becker, J. C. L. 174 E. 87th
Bickelhaupt, G. 243 to 245 W. 47th (see add p. 6)
Blechner, Albert, 2945 Third av
Boll, Oscar, 175 E. 34
Borkel, John, 42-44 Houston
Brandt, Fred, 169 E. 85th (see add p. 106)
Brendel, M. 509 W. 28th
Carey, Henry & Sons, 130 E. 129th
Cornell, J. B. & J. M. 141 Centre, 26th st. bet. 10th and 11 ayes. (see add pp. 35, 37, 39)
Dale Tile Mfg. Co. Ltd. 398 Broome (see add p. 49)
Federroll, R. 267 W. 35th
French, J. C. & Son, 452 Canal (see add p. 47)
Griggs & Crowley, 294 Sixth av
Hagan, Thomas, 227-229 E. 56th
Halliday, M. 218 E. 9th
Harrison, M. & Son, 214-216 E. 52d
Hayes, George, 71 Eighth av (see add p. 8)
Hecla Arch. Iron Works, Pulitzer bldg. Show Rooms, 48 to 51 (see add p. 28)
Honey Co. 76 Greenwich
Jackson Arch. Iron Works, 315 E. 28th (see add p. 31)
Jacob, August, 260 E. 78th
Luth, John F. & Co. 159 E. 48th
Mark, Jacob, 7 Worth (see add p. 30)
Mathews, James & Son, 510 E. 20th
Morrow, J. 225 W. 50th
Moseley Iron Bridge & Roof Co. 5 and 7 Dey (see add p. 49)
Ottivell, John D. 199 Third av
Plenty, Josephus, 145 Liberty
Preuser, John, 300 W. 120th
Schellmann, A. M. 139 Spring

V. M. SCHELLMANN,

Manufacturer of

SKYLIGHTS and CORNICES,

SLATE AND METAL ROOFER,

139 SPRING STREET, NEW YORK.

Tin, Copper and Sheet Iron Worker. Furnaces, Ranges, Heaters and Stoves Cleaned and Repaired. All Jobbing Promptly Attended to.

Schwoerer, Jacob, 8 E. 2d (see add p. 142)
Sherwood Bros. 170 E. 62d
Tice & Jacobs, 510 Pearl (see add p. 32)
Vanriper, Charles & Co. 157 E. 126th
Vincent, William E. D. 445 W. 45th
Walsh, John J. 253 E. 125th
Wines, Wm. D. 44 Centre (see add opp. Seventh Ward)
Winters, Chas. 68 Grove
Wolf, John, 106 Lawrence

SKYLIGHT FRAMES, IRON.

Althause, S. B. & Co. 101-103 Thompson (see add p. 27)
Bent, Samuel S. & Son, 111 Chambers
Cheney & Preyer, 21 Park row (see add opposite Fifth Ward)
Dale Tile Mfg. Co. (Ltd.) 398 Broome (see add p. 49)
Hayes, Geo. 71 Eighth av (see add p. 8)
Jackson Arch. Iron Works, 315 E. 28th (see add p. 31)
Lyon, W. E. 202 E. 46th (see add p. 46)
Moseley Iron Bridge and Roof Co. 5-7 Dey (see add p. 49)
Muhl, J. & Son, 329 E. 23d (see add p. 50)
Schwoerer, J. 8 E. 2d (see add p. 142)

SKYLIGHT GLASS.

Morris, Theo. W. 438 Canal, 14 Vestry (see add p. 89)

SKYLIGHT GUARDS AND SCREEN WIRE.

Althause, S. B. & Co. 101-103 Thompson (see add p. 27)
Estey, W. S. 65 Fulton (see add p. 24)
Hayes, George, 71 Eighth av (see add p. 8)
Howard & Morse, 45 Fulton (see add p. 5)
Lyon, W. E. 202 E. 46th (see add p. 46)
McMurray, Robert T. & Bro. 141 Centre (see add p. 25)
Muhl, J. & Son, 329 E. 33d (see add p. 50)
Schwoerer, J. 8 E. 2d (see add p. 142)

SKYLIGHTS AND HORTICULTURAL WORKS.

Bickelhaupt, George, 245 W. 47th (see add p. 6)
Dale Tile Mfg. Co. Ltd. 398 Broome (see add p. 49)
Hayes, George, 71 Eighth av (see add p. 8)
Plenty Horticultural and Skylight Works, The, Central bldg, 143 Liberty

SKYLIGHTS, GREEN-HOUSES AND CONSERVATORIES.

Bickelhaupt, George, 245 W. 47th (see add p. 6)
Dale Tile Mfg. Co. Ltd. 398 Broome (see add p. 49)
Hayes, George, 71 Eighth av (see add p. 8)

Plenty Horticultural and Skylight Works, The,
Central bldg, 143 Liberty

THE PLENTY
Horticultural & Skylight Works,
JOS. PLENTY, Prest.,
Office, 143 Liberty St.,
NEW YORK.

**SKYLIGHTS, VENTILA-
TORS AND CONSER-
VATORIES.**

Bickelhaupt, George, 245 W. 47th

G. BICKELHOUP,
METALLIC SKY-LIGHTS,

Patents 1876, '78, '79 and '83.

Office & Factory, 243 & 245 W. 47th St.

Bet. Broadway and Eighth Ave., NEW YORK.

Sky-Lights to any Design and Strength. Estimates
Furnished. Branch Manufactories in all the Principal
Cities. Established 1869. Telephone, 675 39th St.

See Advertisement, page 6.

Dale Tile Mfg. Co. Ltd. 398 Broome (see add
p. 49)

Hayes, George, 71 Eighth av (see add p. 8)

Plenty Horticultural and Skylight Works, The,
Central bldg, 143 Liberty

Schwoerer, J. 8 E. 2d (see add p. 142)

**SLATE AND METAL ROOF-
ERS.**

Burkelman, Chas. 16 Grand

Chadwick, Daniel, 136 Varick

Conway, D. & Sons, 173 Broadway

Dalton, Thomas W. r 95 Sheriff

Doran, E. 476 Hudson

Galt, John & Sons, 52 John

Germania Roofing Co. 16 Grand

Jacob, August, 260 E. 78th

Jones & Ellis, 9 Thomas

Mathews, James & Son, 512 E. 20th

Moore, Thomas, 1869 Amsterdam av

Murphy, Geo. M. 43 New Chambers and 2
Madison

GEO. M. MURPHY,

Slate and Metal Roofer.

Manufacturer of

Galvanized Cornices, Gutters, Leaders, Window Caps,
Metal Skylights, Furnace Work, Ventilating, &c. Job-
bing Personally Attended to.

43 New Chambers & 2 Madison St., N. Y.

Neil, John, 445 W. 16th

N. Y. Roofing Co. 437 E. 23d, 10 Warren

Ottwell, John D. 199 Third av

Schwoerer, J. 8 E. 2d (see add p. 142)

Simpson, James, Morris av and E. 164th

Stichnoch, Louis, 90 Rivington

Trittler & Walther, 404 E. 104th

Van Orden, Edward & Co. 110 John

Werner, Chas. 611 E. 150th

Winters, Chas. 68 Grove

SLATE DEALERS.

Acme Slate Co. 35 Broadway

Alpha Slate Co. 35 Broadway

Bangor Southern Slate Co. Ltd. 38 Park row

Brooklyn Slate Mantel Co. 803 Monroe, Brook-
lyn (see add p. 81)

Chapman Slate Co. 502-504 West

Chillingsworth, Felix, 32 Church

Cokefair, Chas. C. 44 Broadway

Columbia Slate Co. 202 Broadway

Emack, John D. 40 Reade

Galpen, R. H. 3 E. 14th

Galt, John & Sons, 52 John

Hobbie, A. D. 32 Church

Hyatt School Slate Co. 325 Broadway

Johnson, Ellsworth J. Potter bldg, 38 Park
row

Jones, Thomas B. 4 Pearl, 15 State

Jones & Ellis, 9 Thomas

Maxwell & Dempsey, 277-281 Cherry

R. C. Maxwell.

J. M. Dempsey.

MAXWELL & DEMPSEY,
STEAM SLATE WORKS,

Nos. 277, 279 & 281 CHERRY ST.,

Between Rutgers and Jefferson, NEW YORK
530, 532, 534 Water Street.

National Slate Co. 246 W. 27th

Nelson, O. 295 Pearl

N. Y. Sillicate Book Slate Co. 35 Vesey

N. Y. Slate Co. 71 Broad

Penrhyn Slate Co. The, 101 E. 17th (see add p.
80)

Pratt, D. C. 34 Dey

Seoffield & Gray, 82 Franklin

Stoneback, William, 504 West

Underhill, John W. 35 Broadway

SLATE MANTELS.

Bradley & Currier Co. Ltd. The, 308 Hudson

Brooklyn Slate Mantel Co. 803 Monroe, Brook-
lyn

BROOKLYN SLATE MANTEL CO.,

MANUFACTURERS OF

Marbleized Slate Mantels and Slate Goods

of all Descriptions. Estimates Promptly Furnished for
Steps, Platforms, Urinals and all General Slate Work. We
also Manufacture a Slate Washtub, to which we would in-
vite your Attention.

Office and Salesroom, 803-815 Monroe St.,

Factory, Macon St. and Broadway.

New York Salesroom, 1114 PARK AVE., Cor. 90th St.

See Advertisement, page 81.

Slate Urinals, Plumbers' Supplies.—Slate Wash Tubs, Plumbers' Supplies.—Sliding Blinds.—
Sliding Blinds and Screens.

Buffalo Door and Sash Co. Ninth av and 124th
Conover, J. S. & Co. 28-30 W. 23d (see add p.
85)
Howden & Fish, Chelsea Hotel bldg, 216-220
W. 23d

HOWDEN & FISH,

Manufacturers & Importers of

English, French and Scotch Tiles

For Floors, Walls, Bathrooms and Fireplaces, Open Fire-
places. Artistic Wood and Slate Mantels. Showrooms,

The Chelsea Building, No. 216 West 23d St. N. Y.

See Advertisement, page 77.

Jackson, W. H. & Co. 27 E. 17th (see add p.
84)
Jenkins Co. 247 Canal
Kirtland, Andrews & Co. 46-48 Union sq (see
add p. 83)
Nichols, A. S. & Co. mills and office 105-111 E.
128, 104-110 E. 129th
Penrhyn Slate Mantel Co. 101 E. 17th (see add
p. 80)
Pottier, Stymus & Co. 375 Lexington av
Standard Mantel and Slate Works, 313-315 W.
125th
Vermont Marble Co. 2 Wall, 35 Hancock pl, ft.
W. 133d

SLATE ROOFERS' TOOLS.

Little, Chas. E. 59 Fulton (see add p. 101)

SLATE URINALS, PLUMB- ERS' SUPPLIES.

Blessing, Geo. A. & Co. 290 Pearl (see add p.
110)
Brooklyn Slate Mantel Co. 803 Monroe, Brook-
lyn (see add p. 81)
McShane, Henry, Mfg. Co. 625-627 Sixth av
(see add p. 108)
Mott, J. L. Iron Works, 88-90 Beekman
Penrhyn Slate Mantel Co. 101 E. 17th (see add
p. 80)
Sanitas Mfg. Co. 54 Gold
Standard Mantel and Slate Works, 313-315 W.
125th

SLATE WASH TUBS, PLUMBERS' SUPPLIES.

Adee, Fred. 90 Beekman (see add p. 109)
Blessing, Geo. A. & Co. 290 Pearl (see add p.
110)
Brooklyn Slate Mantel Co. 803 Mource, Brook-
lyn (see add p. 81)
Cushman, Eugene, 509 W. 15th

Hilgers, Jeannette, r 163 W. 104th
Locke, Chas. 106 W. 37th
McShane, Henry, Mfg. Co. 625-627 Sixth av
(see add p. 108)
Penrhyn Slate Co. 101 E. 17th (see add p. 80)
Portland Cement Stone Co. Central bldg, 143
Liberty
Sanitas Mfg. Co. 54 Gold

SLIDING BLINDS.

Albany Venetian Blind Co. 150 Broadway.
William G. Orr, mgr
Bradley & Currier Co. Ltd 308 Hudson
Burlington Blind Co. 95 Nassau
Keogh, C. B. Mfg. Co. 6-8 Howard
Morstatt & Son, 227 W. 29th
Pirsson, F. M. & Co. Lincoln bldg, 1-3 Union
sq cor. 14th
Venetian Blind Co. Pulitzer bldg, room 61 (see
add p. 87)
Wilson, Jas. G. 74 W. 23d (see add p. 88))

SLIDING BLINDS AND SCREENS.

Bradley & Currier Co. Ltd. 308 Hudson
Roebuck, S. 172 Fulton
Wilson, James G. 74 W. 23d (see add p. 88)

SMELTERS.

Ansonia Brass and Copper Co. (copper refiners).
19-21 Cliff
Barnard, W. A. & Co. 171 Park row
Bergmann & Southall, 53 Ann
Bornholz & Co. 143 Bank
Bridgeport Copper Co. The (copper) 71 Wall
Central American Reduction Co. 145 Broadway
Colorado Smelting Co. (silver and lead) 80
Broadway
Consolidated Kansas City Smelting and Refin-
ing Co. 20 Nassau
Columbia Iron Ore and Furnace Co. 45 Broad-
way
Cooper, Charles & Co. (gold and nickel) 194
Worth
Crooke Smelting and Refining Co. 22 Burling
slip
Dederick, James H. 18 Maiden lane
Dusenbury's, Thomas, Son, 533 W. 24th
Dwyer, James, 200 Centre
Ely, C. Upham, 35 Dey
Friedensville Zinc Co. 21 State
Great National Mexican Smelting Co. 47 Cedar
Guggenheim's, M. Sons, 47 Cedar
Hamerschlag, Mark (gold) 174 Park row
Hamerschlag's, J. Sons, 129 Park row
Herbert's Steam Jet Cupola Furnace Co. 80.
Broadway
Howard, S. P. 8-10 John

Soapstone Manufacturers, Plumbers' Supplies.—Soapstone Wash Tubs and Sinks,
Plumbers' Supplies.—Solder.

Kahn Bros. (white metal) 525 E. 19th
Kingston Metal Extracting Works, 35 Broadway
Ledoux & Co. 9 Cliff
Lewis, Wm. 11 Chambers
Longman's, R. Sons, 8 John
Lowenstein, B. & Bro. (dross) 4-6 Desbrosses
Montana Smelting Co. 80 Broadway
Mutual Smelting and Refining Co. 30 Broad
New York Metallurgical Works, E. N. Riotte, manager, 104-106 Washington
New York Smelting and Refining Co. (dross) Jane and West (see add p. 532)
Orford Copper Co. The, R. M. Thompson, manager (copper smelters) 37-39 Wall
Philadelphia Smelting and Refining Co. 47 Cedar
Platt, Charles S. 29-31 Gold
Robinson, John (gold and silver), 185 Division
Schawel, J. & Co. (gold and silver), 29 John
Solomon, I. H. 48 Centre and 40 Park
Stillman, Thomas B. 40 Broadway
Stillwell & Gladding 55 Fulton
Striker & Co. 118 Gansevoort
United Smelting and Refining Co. 80 Broadway
Waters', John, Sons, 12 John
West-Side Smelting Works, Striker & Co. props. 118 Gansevoort
Wollstein & Sulzberger, 25 John
Wundoehl, Hirsch, 21 John

SNOW GUARDS FOR ROOFS.

Halliday, M. 218 E. 9th
Mullins, W. H. 108 Chambers, Julius T. Wagner, agt

SOAPSTONE MFRS., PLUMBERS' SUPPLIES.

Albermarle Soapstone Co. 393 Pearl
Am. Soapstone Finish Co. 24 State
Barbour, A. E. & Co. 221 Pearl
Pries, W. H. 434 Canal
Smith, Elliott, 24 State
Wagener, John O. & Co. 136 Liberty
Williams & Co. 90 Ann

SOAPSTONE WASH TUBS AND SINKS, PLUMBERS' SUPPLIES.

Adee, Fred. 90 Beekman (see add p. 109)
Albermarle Soapstone Co. 393 Pearl
Blessing, Geo. A. & Co. 290 Pearl (see add p. 110)

McShane, Henry, Mfg. Co. 625-627 Sixth av (see add p. 108)
Mott, J. L. Iron Works, 88 Beekman
Sanitas Mfg. Co. 54 Gold

SOLDER.

American White Metal Works, G. D. Mackey, prop. 64 Gold
Am. Metal Co. The, 80 Wall
Blessing, Geo. A. & Co. 290 Pearl (see add p. 110)
Bracken, James P. 674 Tenth av
Brady Metal Co. (mfrs.) 115 Broadway
Bruce & Cook, 186-190 Water, and 248-250 Pearl
Coddington, T. B. & Co. (wholesale) 27 Cliff
Colwell Lead Co. 63 Centre
Crooke Smelting and Refining Co. 22 Burling Slip
Davol, John & Sons, 100 John
Demilt, H. R. & Co. (wholesale) 238 Water
Diekerson, Van Dusen & Co. 29-31 Cliff
Dusenbury's, Thos. Sons, 533-535 W. 24th
East River Lead Co. 523 E. 19th
Friedensville Zinc Co. 21 State
Hannon, John, 395 Hudson
Hart, Lucius & Co. 10 Burling Slip
Hendricks Bros. 49 Cliff
Hoyt Metal Co. 99 John
Kahn Bros. 525 E. 19th
Katz, Sarah, 230 E. 9th
Lefferts, Marshall & Co. agts. 100 Beekman
LeRoy Shot and Lead Works, 261 Water, and 1343 Broadway
Lowenstein, B. & Bro. 4-6 Desbrosses
McShane, Henry, Mfg. Co. 625-627 Sixth av (see add p. 108)
Mackey, G. D. 64 Gold
Merehant & Co. 247 Pearl
Merry, John & Co. 535-547 W. 15th (see add p. 66)
Nassau Smelting & Refining Co. 540 W. 16th
N. Y. Smelting and Refining Co. Jane c West (see add p. 532)
Phelps, Dodge & Co. 11 Cliff
Quiney, John W. & Co. 98 William
Sanborn, John, 217 Water
Sanitas Mfg. Co. 54 Gold
Striker & Co. 118 Gansevoort
Tatham Bros. 82 Beekman
Thomson, A. A. & Co. 215 Water
Wallace & Son, 29 Chambers
West-Side Smelting Works, Striker & Co. props. 118 Gansevoort
White, John E. & Co. 62 William
Wildes, Thomas, 246 Water

SOLDERING COPPER.

Ansonia Brass Co. 19 Cliff
Blessing, Geo. A. & Co. 290 Pearl (see add p. 110)
Bridgeport Brass Co. 19 Murray

Solid White Crockery, Plumbers' Supplies.—Speaking Tubes, Alarm Whistles, Electric Bells, Annunciators, Etc.—Spelter.—Spike Manufacturers.

McShane, Henry, Mfg. Co. 625-627 Sixth av
(see add p. 108)
New Haven Copper Co. 249 Pearl
Wallace & Sons, 29 Chambers and 5 Reade

SOLID BRONZE WIRE CLOTH.

DeWitt Wire Cloth Co. 32 Reade (see add p. 26)

SOLID WHITE CROCKERY, PLUMBERS' SUPPLIES.

Stewart Ceramic Co. 312 Pearl (see add p. 4)

SPEAKING TUBES, ALARM WHISTLES, ELECTRIC BELLS, ANNUNCIATORS, ETC.

Badenhausen, Henry J. 102-104 W. 46th
Baker & Rider, 180 Broadway
Bateman & Pollard, 143½ E. 23d
Culbert Bros. 311 W. 40th
Dusenbury, George, 28 Church
Federroll, R. 267 W. 35th and 372 Seventh av
Haggerty, George A. 803 Third av (see add p. 53)

Leslie, Thomas, 95 Liberty
McGunnigle, J. S. 882 Sixth av
Mayer, Oscar, 27 Fulton
Murphy & Fink, 2056 Seventh av
Neuman, A. G. 1180 Broadway
Nicholls, Mark M. 582 Hudson
Ostrander, W. R. & Co. 195-197 Fulton
Pierce & Thomas, 42 Cortlandt
Walsh, Owen, 105 Walker
Wolff, Charles, 3-7 Rector
Wooleocks Tube and Whistle Co. 197 Fulton
Zimdars & Hunt, 127 Fifth av

**ELECTRIC BELLS,
SPEAKING TUBES,
ELECTRIC GAS LIGHTING,
ZIMDARS & HUNT,
127 FIFTH AVENUE, NEW YORK.**

SPELTER.

Alburtis, C. W. 35 Liberty
American Metal Co. Ltd. 80 Wall
Ansonia Brass & Copper Co. 19-21 Cliff
Archer, J. J. (broker), 20 Cliff

Behr & Steiner (brokers), 12-14 Cliff
Bruce & Cook, 186, 188, 190 Water and 248-250 Pearl

Byrne, Edward F. (broker), 54 Cliff
Davol, John & Sons, 100 John
Dickerson, Van Dusen & Co. 29-31 Cliff
Dusenbury's, Thomas, Sons, 533-535 W. 24th
East River Lead Co. 523 E. 19th
Everett & Post, 101 John
Fearing, Wm. S. 100 Chambers
Friedensville Zinc Co. (mfrs. Bergenport spelter), 21 State
Hart, Lucius & Co. 10 Burling sl
Hendricks Bros. 49 Cliff
Houston, D. & Co. (brokers), 22 Platt
Kahn Bros. 525 E. 19th
Lamarehe's, H. Sons, 83 John
Lehigh Zinc & Iron Co. (mfrs.), 112 John
Lissberger, L. & Co. 46 Cliff
Lowenstein, B. & Bro. 4-6 Desbrosses
Manning & Squier (mfrs.' agts.), 111 Liberty
Merehant & Co. 247 Pearl
Miller, Charles A. 83 Maiden la
Naylor & Co. 45 Wall
New Haven Copper Co. 294 Pearl
New York Smelting & Refining Co. Jane cor.
West (see add p. opposite Sash Weights, Lead)

Passaic Zinc Co. 111 Liberty
Paulsen, Wm. (mfrs.' agt.), 10 Burling sl
Quincy, John W. & Co. 98 William
Sanborn, John, 217 Water
Thomson, A. A. & Co. 215 Water
Tucker, Cummings H. jr. & Bro. 196 Liberty
Wallace & Sons, 29 Chambers
White, John E. & Co. (brokers), 62 William
Wildes, Thomas, 246 Water

SPIKE MFRS.

Bleecker, James, jr. 149 Broadway
Corning, Edward & Co. (mfrs.' agts), 18 Cortlandt
Diamond State Iron Co. 11 Pine
Heyn, Alfred (railroad), 47 Broadway
Oxford Iron & Nail Co. 81 Washington
Pottstown Iron Co. 280 Broadway
Quincy, John W. & Co. (mfrs.' agts.), 98 William
Revere Copper Co. (composition), 242 South
Salem Nail Co. 295 Pearl
Schuylkill Haven Iron Co. M. J. Drummond, agt. 192 Broadway
Starke, Adolph, 441-443 E. 10th
Stebbins, Charles J. (mfrs.' agt.), 103 Reade
Taunton Copper Mfg. Co. (composition), 232 South

SPRING AND DOOR CHECK MFRS.

American Horse Protector Co. (spiral), 430 W. 14th
American Railway Spring Co. 15 Cortlandt
Baldwin, Stephen W. (steel trap), 2 Wall

Spring and Shade Rollers.]

547 [Stable Fittings & Fixtures, &c.

Spring Hinges.—Spring Steel Armored Hose, Galvanized —Springs, Rubber.—Sprinkler Valves —Sprinklers, Automatic.—Sprinklers, Lawn, &c.

Becker, Noah (watch and clock), 99 Bayard
Briner Bros. r 54 Rutgers
Burns, Silver & Co. (car), 115 Broadway
Bushnell, E. L. Spring Co. 55 Liberty
Butler Hardware Co. 18 Warren
Cary, Alanson (flat), 240-242 W. 29th
Chaillon, John & Sons (spiral), 85-89 Cliff
Concave Elliptic Spring Co. (car), 11 Pine
Crescent Steel Co. (car and coil), 480 Pearl
Fechtman, L. F. & Co. (furniture), 183 Canal
French, A. Spring Co. Ltd. (elliptic and spiral ear), 115 Broadway
Houriet, Oscar (watch), 33 John
Jacobus, E. Y., 38 Park row
Merrill, E. R. (carriage), 532 W. 38th
Miller & Van Winkle (furniture and machinery), 102 Walker
National Car Spring Co. (ear), 115 Broadway
National Wire Mattress Co. (steel coil), 20 E. 14th
Nourse, Fred. Co. 162 W. 27th
Parisot, Paul (watch case), r 75 Nassau
Perret, Frederick (watch case), 80 Nassau
Pickering Spring Co. Ltd. 10 Wall
Prenot, Louis (watch, clock and musical instruments), 181 William
Ryer, J. B. & Co. (furniture), 169 Canal
Schneider, Peter, Sons & Co. (furniture and bed), 185-187 Canal
Schneller, Chas. 91 Charles
Thomas, Seth, Clock Co. (clock and coil), 49 Maiden la
Van Wagoner & Williams Co. (door), 14 Warren
Vose, Richard (car), 115 Broadway
Wolff, R. H. & Co. Ltd. (furniture), 534-560 E. 118th

SPRING AND SHADE ROLLERS.

Hartshorn, Stewart, 486 Broadway

SPRING HINGES.

Bardsley, J. 149-151 Baxter
Bntler Hardware Co. 18 Warren
Graham, John H. & Co. 113 Chambers
The Stanley Works, 79 Chambers
Union Mfg. Co. 103 Chambers
Van Wagoner & Williams Co. 14 Warren

SPRING STEEL ARMORED HOSE, GALVANIZED.

Gutta Percha & Rubber Mfg. Co. 35 Warren
Imperial Rubber Co. 134 Liberty, George E. Austin, mgr
N. Y. Belting & Packing Co. 15 Park row (see add front inside cover)

Revere Rubber Co. 64 Reade
Waterbury Rubber Co. 49 Warren

WATERBURY RUBBER CO.



49 Warren Street, NEW YORK.

See Advertisement, page 72.

SPRINGS, RUBBER.

Kaldenberg, F. J. Co. 211-229 E. 33d
N. Y. Belting & Packing Co. 15 Park row (see add front inside cover)

SPRINKLER VALVES.

Ferrell's Indicating Valve Mfg. Co. 112 Liberty
Graham, John H. & Co. 113 Chambers
Quinn, W. H. & Co. 103 Chambers

SPRINKLERS, AUTOMATIC

Automatic Fire Alarm & Extingnisher Co. Ltd.
413 Broadway (see add p. 71)
Simmons, John, Co. 110 Centre. 155, 162 Leonard, 110 White and 64 Vestry (see add opposite Tenth Ward)

SPRINKLERS, LAWN, &c.

Blessing George A. & Co. 290 Pearl (see add p. 110)
Burck & Sherwood, 44 Cliff
Graham, John H. & Co., 113 Chambers
Greene, Tweed & Co. 83 Chambers (see add p. 53)
McShane, Henry, Mfg. Co. 625-627 Sixth av (see add p. 108)
Mott, J. L. Iron Works, 88 Beekman
Quinn, W. H. & Co. 103 Chambers

STABLE FITTINGS AND FIXTURES, IRON, MFRS. OF.

Abendroth Bros. (furniture), 283 Pearl and 109 Beekman
Aetna Iron Works, 298-300 E. 64th (see add p. 51)
Ayers, Abraham (iron), 506 W. 45th

Bent, Samuel S. & Son, 111 Chambers
 Butler Hardware Co. 18 Warren
 Cameron Iron Works, 182 Sixth av
 Cornell, J. B. & J. M. 141 Centre and 26th st.
 bet. Tenth and Eleventh avs (see add pp. 35,
 37, 39)
 Dimond, J. G. & T. 209-211 W. 33d
 Estey, W. Shepard, 71 Fulton (see add p. 24)
 Fisk, J. W. (iron), 26-28 Park pl
 Howard & Morse (iron), 45 Fulton (see add p.
 5)
 Hubbard, H. N. 96 Chambers
 Jackson Architectural Iron Works (iron), 315
 E. 28th (see add p. 31)
 Mott, J. L. Iron Works (iron), 88-90 Beekman
 North American Iron Works, 88-90 Beekman
 Norwood, J. & Sons, 89 Centre
 Pitt, Wm. R. Composite Iron Works, 83 Reade
 Prince & Kinkel Iron Works, 729-731 First av
 (see add p. 51)
 Salem Foundry & Machine Shop, 41 Dey (see
 add p. 16)
 Westervelt, A. B. & W. T. 102 Chambers (see
 add p. 203)
 Westing, Theo. 449-455 W. 41st
 Wooley & Co. 61 Fulton
 Yale Safe & Iron Co. 331 Madison av

STAINING, WOOD.

Auffermann & Co. 211 E. 42d

American Wood Staining Works

AUFFERMANN & CO.,

Ebony Imitation Antique Wood and Fancy Colored Wood.

211 East 42d Street, N. Y.

STAIR BUILDERS.

Anderson, John E. Kingsbridge road and
 163d
 Balance, R. & Son, Kent av, e. Wallabout,
 Brooklyn

R. BALLANCE & SON, STAIR BUILDERS.

MANUFACTURERS OF

Wainscoting and all kinds of Panel Work.

Kent Ave., cor. Wallabout St., Brooklyn.
 Handrails, Balusters, Newels, etc., Constantly on Hand
 or made to order.

Banta, Albert S. 32 Gansevoort
 Bechter, Conrad, r 322 E. 117th
 Bengtson, Bengt. 526 E. 134th
 Best, John, 306 Eleventh av
 Black, D. 166 E. 128th
 Bolton, J. B. 172 E. 110th

J. B. BOLTON, STAIR BUILDER,

Rails, Newels, Balusters, &c.

No. 172 EAST 110th STREET,
 NEW YORK.

Brassington, John D. 261 W. 27th
 Brown, George & Clifford, 46 E. 14th
 Christman, George B. 1210 Second av
 Cooney, Peter J. E. 148th and Willis av
 Corr, John L. 306 E. 56th
 Corr, Patrick, r 212 E. 26th
 Demarest, Nicholas L. 102 E. 129th
 Devine, Patrick, Boulevard n W. 111th
 Ellis, John, 71 W. 86th
 Evans, James, 415 E. 91st
 Flood, Francis, 23 E. 111th
 Grissler & Son, 632-636 E. 17th
 Haines, John L. 510 E. 71st
 Hall & Garrison, 280 Broadway, c. Chambers
 Hanisch & Mayer, 405 E. 89th

HANISCH & MAYER, STAIR BUILDERS,

Newels, Balusters, Hand Rails, &c,

No. 405 EAST 89th STREET,
 NEW YORK CITY.

Heine, E. 820 Fifth
 Hogan, Patrick, 408 E. 104th
 Johns, Richard C. 247 W. 47th
 Longnecker & Son, r 247 Spring
 McArdle, Joseph M. 260 W. 28th
 McKelvey & Christie, 420 W. 25th

M'KELVEY & CHRISTIE, STAIR BUILDERS.

420 & 422 WEST 25th ST.,
 NEW YORK.

McLaughlin, Edward, 714 E. 137th
 Macdonald, John H. Eleventh av n W. 24th
 Mandeville, H. & Son, 247 W. 47th
 Mandeville, John L. 430 W. 25th
 Meise, Henry H. 151 E. 128th
 Mitchell, Alexander, r 343 W. 47th
 Moisan, Adolphus F. 410 E. 104th
 Moller, Wm. 321 E. 64th
 Monaghan, Martin C. 222 E. 81st
 Murray, Wm. r 265 Spring
 Nobis, John C. 258 W. 28th
 Nylin, Chas. 732 E. 143d
 Olsson, Andrew, 560 St. Ann's av
 Pfister, George, 432 E. 18th
 Phillips, George W. 560 W. 23d (see add p.
 101)
 Poirier, John B. 505 E. 70th
 Prince, Frank, 1922 Park av
 Prince & Kinkel Iron Works, 729-731 First
 av (see add p. 51)

Stair Newels, Rails & Balusters.] 549 [Steam & Gas Fitters' Supplies, &c.

Stair Plates, Brass and Copper.—Stair Rod Manufacturers.—Stair Treads, Rubber.—
Stamped Metal Ornaments.—Statuary Spun Work.

Reid & Jaeger, 820 Fifth
Reville, Nicholas, 425 E. 61st
Richards, Philip, 155 W. 30th
Rolph, Harry, 543 E. 149

H. ROLPH,

STAIR BUILDER

543 EAST 149th STREET,

NEW YORK.

Smith, J. Gibb Co. 331 Madison av
Spaeth, George, ft. E. 122d
Thomas & Post, 100 Elm

THOMAS & POST,

STAIR BUILDERS.

100 ELM STREET,

Between Canal and Walker Sts., NEW YORK.

Hand-Rails, Newels and Balusters Constantly on Hand.
Office Railings.

Trudeau, Edward, 1140 Vanderbilt av
Voorhis, John R. 4 Bethune
Walter, Rudolph, 211 E. 94th
Weidhaas, Gustav A. 258 W. 28th
Wheeler & Lasher, r 355 W. 42d
White, Potter & Paige, 18 E. 17th
Wright, Andrew S. Kingsbridge
Zwerling, Max, 99 Orchard

STAIR NEWELS, RAILS AND BALUSTERS.

Black, D. 166 E. 128th
Bradley & Currier Co. (Ltd.) 308 Hudson
Brown, George & Clifford, 46 E. 14th
Christman, George B. 1210 Second av

STAIR PLATES, BRASS AND COPPER.

Wallace & Sons, 29 Chambers & 5 Reade

STAIR ROD MFRS.

Gould, Robert S. Co. 261 Canal
Gould's, M. Son & Co. 105 Duane
Kroeder, John, 255 Canal
Merserzau, W. T. & Co. 321 Broadway
Smeallie, J. K. & Co. 402 Broadway
Wallace & Sons, 29 Chambers & 5 Reade

STAIR TREADS, RUBBER.

Boston Belting Co. Benjamin F. Elson, agt.
100 Chambers

Columbia Rubber Works Co. 65 Reade & 83
Chambers

Gutta Percha & Rubber Mfg. Co. 35 Warren
Imperial Rubber Co. George E. Austen, man-
ager, 134 Liberty

Mineralized Rubber Co. 18 Cliff

N. Y. Belting and Packing Co. 15 Park row
(see add front inside cover)

Revere Rubber Co. 64 Duane

Waterbury Rubber Co. 49 Warren (see add p.
72)

STAMPED METAL ORNA- MENTS.

American Pin Co. 62 Walker

Briggs, Alfred A. 122 E. 129th

Empire Metal Working Co. 76 Fifth av

Farrell, M. J. & Co. 104 E. 13th

Hecht, M. & Bro. 529 Broadway

Hirt & Hagdorn, 279 Av. B

Hopfensack, Ernest, 34 S. Fifth av

Kayser, Louis M. 90 Walker

Lane Mfg. Co. 350 Canal

Ludwig, Adolph, 33 John

McCullum, John & Co. 426 Washington

Manhattan Brass Co. 338 E. 28th

Messer, Louis & Co. 174 Worth

Mullens, Robert M. r 158 Wooster

Mullins, Wm. H. 108 Chambers, Julius T.
Wagner, agent (see add opp, 23d Ward,
Part 2)

Northrop, Henry S. 30 Rose (see add opp.
Fourth Ward)

Osborn, George R. 335 Broadway

Plant Bros. 465 Greenwich

Prince & Kinkel Iron Works, 729-731 First
av (see add p. 51)

Saldini, Peter, 225 Thompson

Schmidt, Julius C. 527 Pearl

Schmidt, Phillip, 511 Pearl

Schunemann, Charles H. 2-4 Howard

Universal Fastening Co. 241 Centre

Vanderbilt, Isaac T. 96 Spring

Vogeler, Waldeman, 306 E. 95th

Wagner, J. T. 108 Chambers

Winzer & Rothenstein, 338 Broadway

STATUARY SPUN WORK.

Hirt & Hagdorn, 279 Av. B

Mullins, Wm. H. J. T. Wagner, manager,
108 Chambers

STEAM AND GAS FITTERS' SUPPLIES MFRS, AND WHOLESALE DEALERS.

Albany Lubricating Compound and Cup Co.
313 West

Aller, A. 109 Liberty

American Radiator Co. Judson A. Goodrich, manager, 92 Centre
 Ashcroft Mfg. Co. The, 111 Liberty
 Backus, Peter & Son (jobbers) 133 W. 25th (see add p. 64)
 Barr, Edward Co. (Ltd.) (wholesale) 78 John
 Blackmore Heating Co. (pipe hangers) 88 John (see add p. 66)
 Blessing, Geo. A. & Co. (wholesale) 290 Pearl (see add p. 110)
 Bradley, R. G. (dealer) 44 Cliff
 Burtes, Morse (wholesale) 52 John
 Campbell, Felix (dealer) 79 John
 Carr, A. & W. S. Co. 138-140 Centre
 Cassidy & Adler, 531 W. 55th and 490 Sixth av
 Colwell Lead Co. (wholesale) 63 Centre
 Cornell, Hiscox & Underhill (wholesale) 13 Gold
 Corning, Jasper (wholesale) 240 Pearl
 Curran, James (wholesale) 512 W. 36th
 Curtis & Co. (wholesale pipe) 138-140 Centre
 Curtis & Curtis, 74 Cortlandt
 Dame & Townsend Co. 76 John
 Dimock, Fink & Co. 79 Maiden la and 212 E. 125th
 Eaton, Cole & Burnham Co. (mfrs.) 82-84 Fulton
 Fairbanks & Co. 311 Broadway
 Gessert, C. F. Co. 42 Dey
 Griffing, A. A. Iron Co. 15 Dey
 Haydenville Mfg. Co. (mfrs. brass goods) 73 Beekman
 Jamer, Jacob (wholesale) 84 John
 Johnson & Co. (radiators) 71 John
 Johnson, Henry F. 1 Desbrosses
 Keating, Edward F. (wholesale) 27 John
 Kellar Mfg. Co. (wholesale) 117 Walker
 Kelly, Benjamin F. & Son, 91 Liberty (see add p. 61)
 Kennedy, D. (mfr. valves and gates) 52 Cliff
 LaRoza & Co. 41 Dey
 Leng's, John S. Son & Co. (steam siphon pumps, quick open fire valves) 4 Fletcher
 Mayer, Lane & Co. (wholesale) 119 Walker and 161 E. 54th
 McMann, T. R. & Bro. (wholesale) 56-60 Gold
 McNab & Harlin Mfg. Co. (mfrs.) 56 John
 Nason Mfg. Co. 71 Beekman
 Nelson & Finkel (mfrs.) 439 E. 10th
 Paneoast & Rogers, 28 Platt
 Peck Bros. & Co. 47 Cliff
 Roberts, Geo. I. & Bros. (jobbers) 473 Fourth av (see add pp. 62, 63)
 Rose, Clarence H. (wholesale) 292 Pearl
 Rutzler, Enoch, 178 Centre and 5 Howard
 Schoen, Julius, 113 W. Broadway

JULIUS SCHOEN,

PLUMBER, STEAM, GAS and STOVE FITTER,

Tin and Sheet Iron Worker.

Roofs Repaired and Painted.

113 West Broadway,

Near White St.,

NEW YORK

Simmons, John (wholesale) 106-110 Centre, 155-162 Leonard, 110 White, and 64 Vestry (see add opp. Tenth Ward)
 Steele & Johnson Mfg. Co. The (wholesale) 35 Howard
 Sturtevant, B. F. & Co. 91 Liberty
 Stone, Fred. & Co. (wholesale) 62 Gold
 Titusville Radiator Co. (Ltd.) 64 Wall (see add p. 66)
 Urquhart, John S. (wholesale) 46 Cortlandt
 Waefelaer, Louis, 54 Beekman
 Walworth Mfg. Co. 54 Gold
 White, Edward C. (wholesale) 556 W. 34th

STEAM AND 'GAS FITTERS' TOOLS MFRS.

Armstrong Mfg. Co. 242 Canal
 Ashcroft Mfg. Co. 111 Liberty
 Blackmore Heating Co. 88 John (pipe hangers) (see add p. 66)
 Dame & Townsend Co. 76 John
 Eaton, Cole & Burnham Co. 82-84 Fulton
 Gleason & Bailey Mfg. Co. (Ltd.) (gas fitters' pumps) 187-189 Mercer
 Keller Mfg. Co. 117 Walker
 Knapp Mfg. Co. The, 22-24 Frankfort
 Moore, G. T. 112 Chambers
 Peck Bros. & Co. 47 Cliff
 Simmons, John, 106-110 Centre (see add opp. Tenth Ward)
 Stone, Fred. & Co. (pipe tongs) 62 Gold
 Townsend, Thomas C. (pipe vises and tongs) 151 Fourth av
 Walworth Mfg. Co. 54 Gold

STEAM AND HOT WATER BOILERS, HOUSE HEATING.

Abendroth & Root Mfg. Co. 28 Cliff (see add opp. Key to Maps)
 American Radiator Co. 92 Centre, Judson A. Goodrich, manager
 Backus, Peter & Son, 133-135 W. 25th (see add p. 64)
 Baker Heater Co. The 799 Greenwich
 Blackmore Heating Co. 88 John (see add p. 66)
 Blake & Williams, 197 Wooster

BLAKE & WILLIAMS,

Manufacturers of

Steam, Water Heating & Ventilating Apparatus

**No. 197 WOOSTER STREET,
 NEW YORK.**

Telephone Call, Spring "810."

See Advertisement, page 65.

Boltons, G. & J. R. Imp. Hot Water Heater, 114 Liberty, Geo. H. Raymond, manager (see add p. 69)
 Boynton Furnace Co. 207, 209, 211 Water

Clarke, John D. 276 Water
 Cobb, Charles C. 9 Murray
 Cox, Abram, Stove Co. 284 Pearl
 Curran, James, 512 W. 36th
 Denny Bros. 36 Park pl
 Detroit Heating & Lighting Co. 126 Liberty (see add p. 144 and back cover)
 Earle Portable Steam Heater Co. 18 Whitehall
 Fuller & Warren Warming & Ventilating Co. 257 Water
 Gessert, C. F. Co. 42 Dey
 Gorton & Lidgerwood Co. 96 Liberty (see add front inside cover)
 Graff & Co. 208 Water
 Grilling, A. A. Iron Co. 15 Dey
 Gurney Hot Water Heater Co. 71 John
 Higgins & Co. 379 Lexington av (see add p. 67)
 Hitchings & Co. 233 Mercer
 Hogan Boiler Co. 280 Broadway

HOCAN BOILER COMPANY,
 NOVELTY CIRCULATOR
 FOR
HOT WATER HEATING,
 STEWART BUILDING, NEW YORK.
 (BROADWAY AND CHAMBERS ST.)

Johnson & Co. (radiator), 71 John
 Kelly, Benjamin F. & Son, 91 Liberty (see add p. 61)
 Lincoln, J. D. & C. C. 236 Water
 Morton Safety Heating Co. 45 Broadway
 Nason Mfg. Co. 71 Beekman
 National Hot Water Heater Co. 91 Centre
 N. Y. Central Iron Works, 38 Park pl
 N. Y. Steam Fitting Co. 211 Centre
 Pease, J. F. Furnace Co. 205 Water, H. A. Springett, manager
 Pierce, Butler & Pierce, Mfg. Co. 42 Duane
 Richardson & Boynton Co. 232-234 Water
 Richardson & Morgan Co. 92 Beekman
 Rutzler, Enoch, 178-180 Centre and 5 Howard
 Simonds Mfg. Co. 50 Cliff
 Smead Warming & Vent. Co. 331 Madison av
 Smith, H. B. Co. The, 137 Centre
 Sturtevant, B. F. Co. 91 Liberty
 Titusville Radiator Co. Ltd. 64 Wall (see add p. 66)
 Tivy, Lawrence, 97 William
 U. S. Heating & Plumbing Co. 471 Fourth av
 Wainwright Mfg. Co. 121 Liberty
 Weathered's, Thos. W. Sons, 244 Canal (see add p. 65)
 Webster, Warren & Co. 74 Cortlandt
 Wright, F. W. Frankfort and Cliff

**STEAM AND HOT WATER
 HEATERS.**

American Radiator Co. 92 Centre, Judson A. Goodrich, manager
 Backus, Peter & Son, 133-135 W. 25th (see add p. 64)
 Baker Heater Co. 799 Greenwich
 Baker, Smith & Co. 81 W. Houston
 Barstow Stove Co. 228 Water
 Blackmore Heating Co. 88 John (see add p. 66)

Blake & Williams, 197 Wooster (see add p. 65)
 Boynton Furnace Co. 207, 209, 211 Water
 Butler, John Q. A. 117 Beekman
 Cort, Joshua H. 119 Beekman, 220 Water
 Cory, Uzal & Co. 210 Water
 Cox, Abram Stove Co. 284 Pearl
 Denny Bros. 36 Park pl
 Detroit Heating & Lighting Co. 126 Liberty (see add p. 144 and back cover)
 Duplex Steam Heater Co. 23 Bethune and 136 Liberty
 Ely & Ramsay, 249 Water
 Fuller & Warren Co. 236 Water
 Gessert, C. F. Co. 42 Dey
 Gold Car Heating Co. 6 N. Y. & B'klyn Bridge
 Graff & Co. 208 Water
 Grilling, A. A. Iron Co. 15 Dey
 Gurney Hot Water Heater Co. 71 John
 Higgins & Co. 379 Lexington av (see add p. 67)
 James & Kirtland, 230 Water and 112 Beekman
 Johnson & Co. 71 John
 Keyser, John H. Co. 115 Beekman
 Lane, Ira G. 207 E. 64th
 Lincoln, J. D. & C. C. 236 Water
 Lyon, James G. 248 Water
 Magee Furnace Co. 117 Beekman
 Mott, J. L. Iron Works, 88 Beekman
 Munsell, Eugene & Co. 218 Water
 Nason Mfg. Co. 71 Beekman
 N. Y. Central Iron Works, 38 Park pl
 Pease, J. F. Furnace Co. 205 Water, H. A. Springett, manager
 Pierce, Butler & Pierce Mfg. Co. 42 Duane (see add p. 68)
 Pollock, Alexander, 15 Cortlandt
 Richards, Samuel G. 115 W. 38th
 Richardson & Boynton Co. 232 and 234 Water
 Richardson & Morgan Co. 92 Beekman
 Roberts, Geo. I. & Bros. 471-473 Fourth av (see add pp. 62, 63)
 Smith & Anthony Stove Co. 106 Beekman
 Thatcher Furnace Co. 33 Peck st
 Titusville Radiator Co. 64 Wall (see add p. 66)
 Utter, Samuel S. 113 Beekman

**STEAM AND HOT WATER
 HEATING APPARATUS.**

Aller, A. 109 Liberty
 American Fuel Economizer Co. 136 Liberty
 American Radiator Co. 92 Centre, Judson A. Goodrich, manager
 Backus Mfg. Co. 136 W. 34th
 Backus, Peter, & Son, 133-135 W. 25th

Charles W. Backus. Telephone, 905 15th St.

PETER BACKUS & SON,
PRACTICAL ENGINEERS & STEAM FITTERS,
 Heating by Steam or Hot Water.

Plans, Specifications and Estimates Furnished for Steam Work of all Kinds.

133 & 135 West 25th St., New York.

See Advertisement, page 61.

Baker Heater Co. 799 Greenwich
 Baker, Smith & Co. 81 Houston
 Barnard Engineering Co. 15 Cortlandt
 Barron, Hugh J. 74 Cortlandt
 Barstow Stove Co. 228 Water

Beebe Ranges & Furnaces, 110-116 Beekman
 Blackmore Heating Co. 88 John (see add p. 66)
 Blake & Williams, 197 Wooster (see add p. 65)
 Boltions, G. & J. R. Imp. Hot Water Heater,
 114 Liberty, Geo. H. Raymond, manager (see
 add p. 69)
 Boynton Furnace Co. 207, 209, 211 Water
 Brinkerhoff, Augustus, 45 Dey
 Brown, Andrew H. 1784 Broadway
 Bryan, Oliver, 2153 Seventh av
 Butler, John Q. A. 117 Beekman
 Carr, A. & W. S. 138 Centre
 Clark, John D. 276 Water
 Cobb, Charles C. 9 Murray
 Cort, Joshua H. 119 Beekman, 220 Water
 Cory, Uzal & Co. 210 Water
 Cox, Abram, Stove Co. 284 Pearl
 Crosson, J. J. 177 Tenth av
 Curran, James, 512 W. 36th
 Dame & Townsend Co. 76 John
 Davis, Lewis S. 77 Liberty
 Davis, G. M. & Co. 136 Liberty
 Denny Bros. 36 Park pl
 Detroit Heating & Lighting Co. 126 Liberty
 (see add p. 144 and back cover)
 Dobson, Frank, 218 E. 42d
 Duplex Steam Heater Co. 23 Bethune and 136
 Liberty
 Eagle Portable Steam Heater Co. 18 Whitehall
 Eastman Freight Car Heater Co. 41 Park row
 Eaton, Cole & Burnham, 82 Fulton
 Ellison & Co. 2173 Seventh av
 Evans, Q. N. Construction Co. 41 Dey
 Franklin, Geo. 142 Centre
 Fuller & Warren Warming and Ventilating Co.
 257 Water
 Gessert, C. F. Co. 42 Dey
 Gillis & Greghan, 33 So. Fifth av
 Gold Car Heating Co. 6 N. Y. and Brooklyn
 Bridge
 Gorton & Lidgerwood Co. 96 Liberty (see add
 front inside cover)
 Goubert Mfg. Co. 32 Cortlandt
 Gouge Heating & Ventilating Co. 47 Beekman
 Graff & Co. 208 Water
 Gray, Albert, 150 William
 Griffing, A. A. Iron Co. 15 Dey
 Grimes, Michael F. 86 Broad
 Gurney Hot Water Heater Co. 71 John
 Hanna, Manuel J. 192 Water
 Harvey Furnace Co. 1325 Broadway
 Hendry & Co. 2166 Seventh av
 Higgins & Co. 379 Lexington av (see add p. 67)
 Hitchings & Co. 233 Mercer
 Hot Air Car Heating Co. 40 Wall
 Hull, Grippen & Co. 310 Third av
 Hummell, Jas. H. 153 Fulton
 Hussey Reheater & Steam Plant Improvement
 Co. 15 Cortlandt
 Hyslop, John, 208 E. 29th
 Janes & Kirtland, 230 Water, 112 Beekman
 Johnson & Co. 71 John
 Johnson & Morris, 114 Leonard
 Kelley, Benj. F. & Son, 91 Liberty (see add p.
 61)
 Kieley, Timothy, 11 W. 13th
 Lane, Ira G. 207 E. 64th
 Lemon, Thomas K. 431 Amsterdam av
 Lincoln, J. D. & C. C. 236 Water
 Lynch, A. C. 136 Liberty
 Lyon, James G. 248 Water
 McLeod Car Heating & Vent. Co. 125 Worth

Mahoney, John J. 257 Hudson
 Mead Arthur F. 446 W. 17th
 Meisel, Stickney & Co. 43 College pl
 Morton Safety Heating Co. 45 Broadway
 Mulhern, Piatti & Kirk, 144 E. 42d
 Munsell, Eugene & Co. 218 Water
 Nason Mfg. Co. 71 Beekman
 National Hot Water Heater Co. 94 Centre
 Neal's, John, Sons, 218 Centre
 N. Y. Steam Fitting Co. 211 Centre
 Oakes, Fred. F. 22 Platt
 Pease, J. F. Furnace Co. 205 Water and 25 Ful-
 ton, H. A. Springett, manager
 Pierce, Butler & Pierce Mfg. Co. 42 Duane
 Pollack, Alexander, 15 Cortlandt
 Puffer, William E. 73 Gold
 Rapid Safety Heating Co. 67 Warren
 Reilley, William P. 12 Elm
 Richardson & Boynton Co. 232-234 Water
 Richardson & Morgan, 92 Beekman
 Roberts, Geo. I. & Bros. 471-473 Fourth av (see
 add pp. 62, 63)
 Rutzler, Enoch, 178 Centre and 5 Howard
 Safety Car Heating & Lighting Co. 160 Broad-
 way
 Simonds Mfg. Co. 50 Cliff
 Smead Warming & Vent. Co. 331 Madison av
 Smith, H. B. Co. The, 137 Centre
 Stewart Heater Co. 112 Liberty
 Sturtevant, B. F. Co. 91 Liberty
 Thermo Electric Heat Regulating Co. 45 Broad-
 way
 Thistle, Edward, 254 W. 14th
 Titusville Radiator Co. Ltd. 64 Wall (see add p.
 66)
 Tivy, Lawrence, 97 William
 Trask & Carmichael, 80 Centre
 Tuttle & Bailey Mfg. Co. 83 Beekman
 U. S. Heating & Plumbing Co. 471 Fourth av
 Wainwright Mfg. Co. 121 Liberty
 Weathered's, Thos. W. Sons, 244 Canal

THE WEATHERED HOT WATER HEATER,
 Manufactured by
THOS. W. WEATHERED'S SONS,
 244 Canal Street, N. Y.

Contractors for Heating Dwellings, Greenhouses,
 Churches, Public Buildings, &c. By Hot Water Circu-
 lation Only. Over 6,000 in Use. Established 1859.

See Advertisement, page 65.

Webster, Warren & Co. 74 Cortlandt
 Wells & Newton, 44 Rose
 Westberg, James O. & Co. 103 Beekman
 Wing, L. J. & Co. 126 Liberty (see add p. op-
 posite Eighth Ward)

**STEAM AND HOT WATER
 HEATING CONTRACTORS.**

Abbott, M. Sons, 316 W. 16th, 157 Eighth av
 Abendroth Bros. 109 Beekman, 282 Pearl
 American Radiator Co. 92 Centre, Judson A.
 Goodrich, mgr.
 Backus, Peter & Son, 133 W. 25th (see add p.
 64)
 Bailey, W. R. & Co. 2057 Lexington av
 Baker, Smith & Co. cor. Houston and So. Fifth
 av

Barnard Engineering Co. 15 Cortlandt
 Barrow, H. J. 76 Cortlandt
 Barstow Stove Co. 228 Water
 Beebe Ranges and Furnaces, 110-116 Beekman
 Black, Jos. R. 357 E. 40th
 Blackmore Heating Co. 88 John (see add p. 66)
 Blake & Williams, 197 Wooster (see add p. 65)
 Bolton, Alex. G. 1665 Broadway
 Boltons, G. & J. R. Imp. Hot Water Heater,
 Geo. H. Raymond, mgr. 114 Liberty (see add
 p. 69)
 Bonner & Van Cort, 433-435 W. 42d
 Boynton Furnace Co. 207-211 Water
 Brinkman, Louis H. 241 E. 42d
 Bryan, Oliver, 2158 Seventh av
 Butler, John Q. A. 117 Beekman
 Clark, John D. 276 Water
 Cobb, Charles C. 9 Murray
 Cort, Joshua H. 119 Beekman, 220 Water
 Cory, Uzal & Co. 210 Water
 Cox, Abram, Stove Co. 254 Water
 Crossley, Charles A. 32 Church
 Crosson, James J. 177 Tenth av
 Cumiskey & Dobson, 218 E. 42d
 Curran, James, 512 W. 36th
 Denny Bros. 36 Park pl
 Detroit Heating and Lighting Co. 126 Liberty
 (see add p. 144)
 Ely & Ramsay Co. 249 Water
 Evans, Q. N. Construction Co. 41 Dey
 Franklyn, George A. 142 Centre
 Fuller & Warren Warming and Ventilating Co.
 257 Water
 Gessert, C. F. Co. 42 Dey
 Gillis & Geoghegan, 33 So. Fifth av
 Gorton & Lidgerwood Co. 96 Liberty (see add
 front inside cover)
 Gouge Heating and Ventilating Co. 47 Beekman
 Graff & Co. 208 Water
 Griffing, A. A. Iron Co. 106 Liberty
 Hanna, Michael, 192 Water
 Higgins, W. F. & Co. 379 Lexington av (see
 add p. 69)
 Hitchings & Co. 233 Mercer
 Hull, Griffen & Co. 310 Third av
 Hussey Reheater and Steam Plant Imp. Co. 15
 Cortlandt
 Janes & Kirtland, 110-112 Beekman, 230 Water
 Johnson & Co. 71 John
 Johnson & Morris, 114 Leonard
 Keller & Beebe, 129 Beekman
 Keyser, John H. Co. 115 Beekman
 Klausman & Mayer, 2253 Third av
 Lane, Ira G. 207 E. 64th
 Lineoli, J. D. & C. C. 236 Water
 Lyon, James G. 248 Water
 Magee Furnace Co. 117 Beekman Jno. Q. A.
 Butler, manager
 Morton Safety Heating Co. 45 Broadway
 Mott, J. L. Iron Works, 88 Beekman
 Mulhearn, Piatti & Kirk, 144 E. 42d
 Munsell, Eugene & Co. 218 Water
 Neal's, John, Sons, 218 Centre
 N. Y. Steam Fitting Co. 211 Centre
 Nugent, Thomas, 214 E. 80th
 Pasco & Palmer, 1293 Broadway
 Pease, J. F. Furnace Co. 205 Water, 25 Fulton,
 H. A. Springett, mgr
 Perry Stove Co. 74 Beekman
 Pierce, Butler & Pierce Mfg. Co. 42 Duane
 Pollock, Alex. 15 Cortlandt
 Renchan, John, 142 E. 35th

Richards, Samuel G. 115 W. 38th
 Richardson & Boynton Co. 232 Water
 Richardson & Morgan Co. 92 Beekman
 Roberts, George I. & Bro. 471-473 Fourth av
 (see add pp. 62, 63)
 Rutzler, Enoch, 178 Centre, 5 Howard
 Sheppard, Isaac A. & Co. Wm. Keiley, agent,
 247 Water (see add back inside cover)
 Simonds Mfg. Co. 59 Cliff
 Smead Warming and Ventilating Co. 331 Mad-
 ison av
 Smith, R. H. 6 Wall
 Smith, H. B. Co. The, 137 Centre
 Stewart Heater Co. 112 Liberty
 Thatcher Furnace Co. 33 Peck st
 Titusville Radiator Co. Ltd. 64 Wall (see add
 p. 66)
 Tivy, Lawrence, 97 William
 Trask & Carmichael, 80 Centre
 Union Stove Works, 70 Beekman
 U. S. Heating and Plumbing Co. 471 Fourth av
 Uiter, Samuel S. 113 Beekman
 Weathered's, Thos. W. Sons, 234 Canal (see
 add p. 65)
 Weymouth, E. F. 5 Howard
 Wood, E. J. 243 Broadway
 Wright, F. W. Frankfort and Cliff

STEAM AND WATER HEAT- ING, HIGH AND LOW PRESSURE.

American Radiator Co. 92 Centre, Judson A.
 Goodrich, mgr
 Backus, Peter & Son, 133-135 W. 25th (see add
 p. 64)
 Baker, Smith & Co. 81 Houston, cor. So. Fifth
 av
 Blackmore Heating Co. 88 John (see add p. 66)
 Blake & Williams. 197 Wooster (see add p. 65)
 Boltons, G. & J. R. Imp. Hot Water Heater,
 114 Liberty, Geo. H. Raymond, mgr. (see add
 p. 69)
 Boynton Furnace Co. 207-211 Water
 Curran, James, 512 W. 36th
 Denny Bros. 36 Park pl
 Detroit Heating and Lighting Co. 126 Liberty
 (see add p. 144)
 Evans, Q. N. Construction Co. 41 Dey
 Gessert, C. F. Co. 42 Dey
 Gillis & Geoghegan, 33 So. Fifth av
 Griffing, A. A. Iron Co. 12 Dey
 Hanna, Michael J. 192 Water
 Higgins & Co. 379 Lexington av (see add p. 69)
 Hitchings & Co. 233 Mercer
 Hussey Reheater and Steam Plant Imp. Co. 15
 Cortlandt
 Jamer, Jacob, 84 John
 Johnson & Co. 71 John
 Johnson & Morris. 114 Leonard
 Neal's, John, Sons, 218 Centre
 N. Y. Steam Fitting Co. 211 Centre
 Roberts, Geo. I. & Bros. 471-473 Fourth av
 (see add pp. 62, 63)
 Rutzler, Enoch, 178 Centre, 5 Howard
 Smead Warming and Ventilating Co. 331
 Madison av
 Smith, A. B. Co. The, 137 Centre

Steam Blowers.—Steam Boilers.—Steam Condenser Manufacturers.—Steam Copper Works.

Titusville Radiator Co. Ltd. 64 Wall (see add p. 66)
Tivy, Lawrence, 97 William
Trask & Carmichael, 80 Centre
U. S. Heating and Plumbing Co. 471 Fourth av
Webster, Warren & Co. 74 Cortlandt
Wells & Newton, 44 Rose

STEAM AND WATER HOSE.

Columbia Rubber Works Co. 65 Reade and 83 Chambers
Gutta Percha and Rubber Mfg. Co. 35 Warren
Imperial Rubber Co. 134 Liberty, George E. Austin, mgr.
Mineralized Rubber Co. 18 Cliff
New York Belting and Packing Co. 15 Park row (see add front inside cover)
Revere Rubber Co. 64 Reade
Roberts, Geo. I. & Bros. 471-473 Fourth av (see add pp. 62, 63)
Waterbury Rubber Co. 49 Warren (see add p. 72)

STEAM BLOWERS.

Aller, A. 109 Liberty
Beggs, James & Co. 9 Dey
Boltons, G. & J. R. Imp. Hot Water Heater, 114 Liberty, Geo. H. Raymond, mgr. (see add p. 69)
Donegan & Swift, 11 Murray
Howard & Morse, 45 Fulton (see add p. 5)
Sturtevant, B. F. Co. 91 Liberty
Townsend, Sylvanus S. 163-165 Washington
Watertown Steam Blower Co. 54 Pine
Wing, L. J. & Co. 126 Liberty (see add opp. Eighth Ward)

STEAM BOILERS.

Abendroth & Root Mfg. Co. 28 Cliff (see add opp. Key to Ward Maps)
Ames Iron Works, 38 Cortlandt
Babcock & Wilcox Co. The, 30 Cortlandt
Backus, Peter & Son, 133-135 W. 25th (see add p. 64)
Blake & Williams, 197 Wooster (see add p. 65)
Boltons, G. & J. R. Imp. Hot Water Heater, 114 Liberty, Geo. H. Raymond, mgr (see add p. 69)
Denny Bros. 36 Park pl
Dumbarton Iron Works, A. Reid, prop. 408 West
Fox, George & Son, 509 W. 34th
Griffing, A. A. Iron Co. 106 Liberty
Harrison Safety Boiler Works, 41 Dey
Hawkins, R. F. Iron Works, 91 Liberty
Heine Safety Boiler Co. 45 Broadway
Howard Foundry and Mach. Works, 114 Liberty (see add p. 19)
Morgan Iron Works, 814 E. 9th

National Water Tube Boiler Co. 18 Cortlandt (see add p. 53)
New York Safety Steam Power Co. 30 Cortlandt
Phoenix Iron Co. 10 W. 23d
Pollock, Alex. 15 Cortlandt
Roberts, Geo. I. & Bros. 471-473 Fourth av (see add pp. 62, 63)
Smith, Albert & Son, 479-481 Eleventh av
Theall, Horace, ft. Bethune
Whittier Machine Co. 93 Liberty

STEAM CONDENSER MFRS.

Aller, A. (Korting) 109 Liberty
Conover & Co. 95 Liberty
Wheeler Condenser and Engineering Co. (surface) 93 Liberty
Worthington, Henry, 86-88 Liberty

STEAM COPPER WORKS.

Trageser, John, Steam Copper Works, 447-457 W. 26th

Established 1850.

JOHN TRAGESER, STEAM COPPER WORKS,

447 to 457 West 26th St., N. Y.

Galvanized and Copper Range Boilers. Bath Tubs and Copper Work of Every Description. Branch Store, 35 Ferry St. Telephone, 136 21st; 73 Nassau.

STEAM ENGINES.

Ames Iron Works, 38 Cortlandt
Backus, Peter & Son, 133-135 W. 25th (see add p. 64)
Ball & Wood Co. 15 Cortlandt
Barnhurst, William, 136 Liberty
Baxter Engine Co. 118 Liberty
Beggs, James & Co. 9 Dey
Buckeye Engine Co. 18 Cortlandt
Campbell Engine Co. 35 Wall
Cooke & Co. 163 Washington
Copeland, E. T. & Co. 18 Cortlandt
Daley & Son, 39 Vesey
Dickson Mfg. Co. 52 John
Donegan & Swift, 11 Murray
Fishkill Landing Mach. Co. Fishkill, N. Y.
Fitchburg Steam Engine Co. 136 Liberty
Fleming, W. R. & Co. 174 Fulton
Grant Locomotive Works, 41 Wall
Hampson, Edward P. & Co. 36 Cortlandt
Hoovens, Owens & Rentschler Co. 18 Cortlandt
Howard & Morse, 45 Fulton (see add p. 5)
Howard Foundry and Mach. Works, 114 Liberty (see add p. 19)
Hubbard, Norman, 93-97 Pearl, Brooklyn (see add p. 55)

Kelley, Benj. F. & Son. 91 Liberty
 Killerlune & Ryder, 239 241 West
 Lathrop Co. 66 Cortlandt
 Leffel, James & Co. 110 Liberty
 Leonard & McCoy, 118 Liberty
 McSwegan, Frank & Sons, 1 New York and
 Brooklyn Bridge
 Morgan Iron Works, 814 E. 9th
 N. Y. Locomotive Works, 45 Wall
 N. Y. Safety Steam Power Co. 30 Cortlandt
 Newell Universal Mill Co. 136 Liberty
 Noye, John T. Mfg. Co. 136 Liberty
 Payne, B. W. & Sons, 45 Dey (see add p. 54)
 Phoenix Iron Co. 10 W. 23d
 Pierce & Thomas, 42 Cortlandt
 Pittsburgh Locomotive Works, 115 Broadway
 Pollock, Alex. 15 Cortlandt
 Red Fort Iron Works, 239 241 West
 R. I. Locomotive Works, 58 Pine
 Rogers Locomotive and Mach. Works, 44 Exchange pl
 Rushworth, John, 246 W. 27th
 Shortt Duplex High Speed Engine Co. 136
 Liberty
 Simpson, William L. 18 Cortlandt
 Skinner Engine Co. 15 Cortlandt
 Strong Locomotive Co. 45 Broadway
 Struthers, Wells & Co. 50 Broadway
 Theall, Horace, 65 Bethune
 Tucker, C. H. jr. & Bro. 126 Liberty
 Vincent, C. R. & Co. 15 Cortlandt
 Wells Engine Co. 91 Liberty
 Westinghouse, Church, Kerr & Co. 17 Cortlandt
 Westinghouse Machine Co. 17 Cortlandt
 Weston Engine Co. 40 Cortlandt
 Whitehill Engine and Pictet Ice Mach. Co. 21
 Cortlandt
 Wing, L. J. & Co. 126 Liberty

STEAM EXHAUST OIL EXTRACTOR MFRS.

Barnard, Geo. A. 15 Cortlandt
 Corcoran, B. J. 205 W. 57th
 Exhaust Steam Purifying Co. 35 Wall
 Hall, John S. 40 Cortlandt
 Hine Eliminator Co. 4 Cortlandt
 Hine & Robertson, 45 Cortlandt
 Kieley, Timothy, 11 W. 13th

STEAM FIRE AND DAMPER REGULATORS.

Aller, A. (mfrs.' agt.) 109 Liberty
 Hallock Regulator Co. 44 Dey
 Hine & Robertson (steam) 45 Cortlandt
 Rutzler, Enoch, 178 Centre
 Simmons, John, 106 to 110 Centre (see add opp.
 Tenth Ward)

STEAM FITTER SUPPLIES.

Abendroth & Root Mfg. Co. (iron pipe) 2
 (see add p. opp. Key to Ward Maps)
 Acton, John (valves) 191 Worth
 Agricola La Burt Mfg. Co. (valves) 202 E. 8.
 Aller, A. (valves) 109 Liberty
 Am. Steam Gauge Co. (gauges) 51 John
 Am. Steam Specialty Co. (gauges) 74 Cortlandt
 Am. Tube and Iron Co. (iron pipe) 98 John
 Ashcroft Mfg. Co. (gauges) 111 Liberty
 Ashton Valve Co. (valves) 107 Liberty
 Barr, Edward, Co. (iron pipe) 78 John
 Bell, Armisted Mfg. Co. (iron pipe) 140 Centre
 Buckleon, Chas. H. (valves) 107 Liberty
 Burtis, Morse (gauges, iron pipe) 52 John
 Campbell, Felix (iron pipe) 79 John
 Consolidated Safety Valve Co. (valves) 111
 Liberty
 Cooke, Richard K. (iron pipe) 48 Centre
 Crane Co. (iron pipe) 40 Wall
 Crosby Steam Gauge and Valve Co. 78 John
 Curtis & Co. (iron pipe) 138 Centre
 Dame & Townsend Co. (iron pipe) 76 John
 Donegan & Swift (iron pipe) 11 Murray
 Drummond, Michael J. (iron pipe) 192 Broad-
 way
 Eaton, Cole & Burnham (iron pipe) 82 Fulton
 Edson, Jarvis B. (gauges) 87 Liberty
 Fairbanks Co. (valves) 311 Broadway
 Fox, John (iron mfrs.) 160 Broadway
 Gessert, C. F. Co. (radiators) 42 Dey
 Grilling, A. A. Iron Co. (radiators, valves) 15
 Dey
 Hooven, James (iron pipe) 78 John
 Hoppe, Paul F. (gauges) 34 Church
 Jamer, Jacob (iron pipe) 84 John
 Jenkins Bros. (valves) 71 John
 Kay, William H. (iron pipe) 36 Dey
 Keating, Edmond F. (iron pipe) 75 John and
 33 Gold
 Kelly & Jones Co. (valves) 104 John
 Kennedy, Daniel (valves) 52 Cliff
 Leonard & McCoy (iron pipe) 118 Liberty
 Lukens, Lewis N. (iron pipe) 22 Gold
 Lukens, William (iron pipe) 22 Gold
 Lynch & Christopher (iron pipe) 136 Christo-
 pher
 McMann, T. R. & Bro. (iron pipe) 60 Gold
 McNab & Harlin Mfg. Co. (iron pipe), 56 John
 McNeal Pipe and Foundry Co. (iron pipe) 52
 Wall
 Mellert Foundry and Machine Co. (iron pipe)
 160 Broadway
 Moffat, Frank D. & Co. (iron pipe) 81 Fulton
 Monitor Iron Works (iron pipe) 78 Centre
 Nason Mfg. Co. (iron pipe) 71 Beekman
 National Pipe Bending Co. (iron pipe) 15
 Cortlandt
 National Tube Works Co. (iron pipe) 160
 Broadway
 Oil City Tube Co. (iron pipe) 116 Liberty
 Pancoast & Rogers (iron pipe, valves) 28 Platt
 and 15 Gold
 Partridge, W. T. & Co. (iron pipe) 128 Broad-
 way
 Patent Water and Gas Pipe Co. (iron pipe) 41
 Dey
 Pennsylvania Tube Works (iron pipe) 37 Platt

Pierce, Chas. D. (iron pipe) 127 Pearl
Reading Foundry Co. Ltd. (iron pipe) 160
Broadway
Roberts, Geo. I. & Bros. 471-473 Fourth av

CEO. I. ROBERTS & BROS.,

INCORPORATED,

Plmbers', Gas and Steam Fitters' Supplies,

471 and 473 FOURTH AVENUE,

NEW YORK.

See Advertisement, pages 62, 63.

Schaffer, Budenberg (gauges) 83 John
Schmidt, Charles & Son (gauges) r 41 Centre
Schmidt, G. & L. (gauges) 216 Centre
Seery, James F. (iron pipe) 449 E. 150th
Seipel, John (gauges) 90 Park row
Shepherd Sewerage System Co. (valves) 49
University pl
Simmons, John Co. (iron pipe) 110 Centre (see
add opp. Tenth Ward)
Spiral Weld Tube Co. (iron pipe) 43 John
Stone, Fred. & Co. (valves) 62 Gold
Walworth Mfg. Co. (iron pipe, valves) 54 Gold
Warren Foundry and Machine Co. (iron pipe)
160 Broadway
Wells Rustless Iron Co. (iron pipe) 52 John
Wells & Coutan Co. Ltd. (iron pipe) 78 John
Willing, Charles G. (gauges) 88 John
Zanbitz, August (gauges) 48 Centre

- STEAM FLUE CLEANERS.

Maynard, John Q. 114 Liberty (see add p. 20)
Roberts, Geo. I. & Bros. 471-473 Fourth av (see
add pp. 62, 63)

**STEAM, GAS AND WATER
PIPE AND FITTINGS
(MFRS. AND WHOLESALE
DEALERS).**

Abendroth & Root Mfg. Co. (mfrs. spiral pipe)
28 Cliff (see add opp. Key to Ward Maps)
American Tube and Iron Co. (mfrs. pipe) 98
John
Arthur Co. The (mfrs. water fittings) 86 John
Ashcroft Mfg. Co. 111 Liberty
Barr, Edward, Co. Ltd. 78 John
Blakeslee's, E. C. Sons. 140 Centre
Blakeslee, E. G. Mfg. Co. The, 76-80 Centre
Burtis, Morse (mfrs. agt.) 52 John
Campbell, Felix, 79 John
Carr, A. & W. S. Co. 133-140 Centre
Cassidy & Addler, 531 W. 55th and 490 Sixth av
Cheney, George W. & Son (mfrs.) 447 E. 136th
Colwell Lead Co. (mfrs. and wholesale dealers)
63 Centre
Cornell, Hiscock & Underhill (wholesale) 13
Gold
Corning, Jasper (dealer) 240 Pearl
Curran, James, 512 W. 36th
Curtis & Co. (wholesale pipe) 14 Centre

Dame & Townsend Co. (wholesale and mfrs.)
76 John
Dimock, Fink & Co. (dealers) 80 John and 212
E. 125th
Drummond, M. J. (wholesale cast pipe) 192
Broadway
Eaton, Cole & Burnham Co. (mfrs. fittings) 82-84
Fulton
Floyd, James R. & Sons (wholesale pipe) 531-
534 W. 20th
Fox, John (wholesale pipe) 160 Broadway
Froment, Frank L. (mfrs. agt.) 112 John
Gillis & Geoghegan (mfrs.) 33 S. Fifth av
Gleason & Bailey Mfg. Co. Ltd. (cast thread
fittings) 187-189 Mercer
Goodwin, Robert N. 104 John
Greeley, E. S. & Co. The (dealers) 5-7 Dey
Haley, J. S. & Co. 57 Elm
Halloway, Edwin, 160 Leonard
Haydenville Mfg. Co. (wholesale fittings) 73
Beekman
Hepe, Koven & Co. 18 Spruce
Hoffman, C. Jr. (wholesale fittings) 83 Maiden
lane
Iden & Co. (mfrs.) 26 University pl
Jamer, Jacob (wholesale) 84 John
James & Kirtland, 232 Water
Keating, Edward F. (wholesale pipe and fit-
tings) 75 John
Keller Mfg. Co. (wholesale) 117 Walker
Kennedy, D. (mfrs. valves and gates) 52 Cliff
La Rosa & Co. (wholesale) 41 Dey
Lukens, Lewis N. (wholesale steel and iron
pipes) 22 Gold
Manning, Maxwell & Moore (wholesale dealers)
111-113 Liberty
Mayor, Lane & Co. (wholesale dealers) 119
Walker and 161 E. 54th
McMann, T. R. & Bro. (wholesale) 56-60 Gold
McNab & Harlin Mfg. Co. (mfrs.) 56 John
McNeal Pipe and Foundry Co. (mfrs. cast iron
pipe) 52 Wall
McShane, Henry, Mfg. Co. 625-627 Sixth av
(see add p. 108)
Milliken Bros. 55 Liberty
Mott, J. L. Iron Works, 88-90 Beekman
Nason Mfg. Co. (wholesale) 71 Beekman
National Tube Works Co. (mfrs. pipe) 160
Broadway
Nelson & Finkel (wholesale) 439 E. 10th
New York Pipe Mfg Co. (cement lined water)
16 Cortlandt
Patent Water and Gas Pipe Co. (mfrs.) 41 Dey
Peck Bros. & Co. (mfrs. fittings) 47 Cliff
Penns. Tube Works (pipe mfrs.) 12 Cliff
Pierce Artesian and Oil Well Supply Co.
(dealers in pipe) 127 Pearl and 80 Beaver
Roberts, George I. & Bros. 473 Fourth av (see
add pp. 62, 63)
Rutzler, Enoch (mfr. and wholesale dealer) 178
Centre and 5 Howard
Simmons, John (mfr. and wholesale dealer) 106-
110 Centre (see add opp. Tenth Ward)
Spiral Weld Tube Co. (mfrs. spiral steel pipes)
43 John
Syracuse Tube Co. (mfrs. wrought pipe) 140
Centre
Trask & Carmichael, 80 Centre
Urquhart, John (wholesale dealer) 46 Cortlandt
Waefelaer, Louis, 54 Beekman
Walworth Mfg. Co. (wholesale) 54 Gold

Warren Foundry and Machine Co. (mfrs. cast pipe) 160 Broadway
Wells Rustless Iron Co. The (mfrs. pipe) 52 John

STEAM GAUGES.

American Steam Gauge Co. 51 John
American Steam Specialty Co. 74 Cortlandt
Ashcroft Mfg. Co. 111 Liberty
Burtis, Morse, 52 John
Crosby Steam Gauge & Valve Co. 78 John
Dame & Townsend Co. 76 John and 29 Platt
Edson, Jarvis B. 87 Liberty
Holmann & Mauer, 90 Fulton
Hoppe, Paul F. 34 Church
Jamer, Jacob, 84 John
McNab & Harlin Mfg. Co. 56 John
McShane, Henry, Mfg. Co. 625-627 Sixth av
(see add p. 108)
Neubeck, August & Co. 111 Nassau
Pollock, Alexander, 15 Cortlandt
Roberts, Geo. I. & Bros. 471-473 Fourth av (see add pp. 62, 63)
Schaffer & Budenberg, 83 John
Schmidt, Charles & Son, 41 Centre
Schmidt, G. & L. 216 Centre
Star Brass Mfg. Co. 94-96 Centre
Zaubitz, August, 48 Centre

STEAM HEATING APPARATUS DEALERS.

Aller, A. 109 Liberty
American Radiator Co. 92 Centre, Judson A. Goodrich, mgr
Backus, Peter & Son, 133-135 W. 25th (see add p. 64)
Barron, Hugh J. & Co. 74 Cortlandt
Black, Joseph R. 355 W. 40th
Bonner & Van Court, 433-435 W. 42d
Bramhall, Deane & Co. 262-266 Water
Brown, Andrew H. 1784 Broadway
Carraler & Co. 332 Monroe
Chesbrough, R. A. 24 State
Coddington, Robert, 44 Broadway
Colwell Lead Co. 63 Centre
Cranston, W. H. 2015 Seventh av
Crossley, Charles A. (contractor), 32 Church
Crosson, James J. 543 W. 22d
Curran, James, 512 W. 36th
Dame & Townsend Co. 76 John
Denny Bros. 36 Park pl

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Contractors for

Steam and Hot Water Heating Apparatus,

No. 36 PARK PLACE,

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Evans, Q. N. Construction Co. (contractor), 41 Dey
Gessert, C. F. Co. (radiators), 42 Dey

Griffing, A. A. Iron Co. 15 Dey
Grimes, J. & M. F. 115 Broad
Hanna, M. J. 192 Water
Higgins & Co. 379 Lexington av (see add p. 67)
Hogan Boiler Co. 280 Broadway
Jamer, Jacob, 84 John
Jenkins Bros. 71 John
Johnson, M. H. 71 John
Johnson & Morris (contractors), 114 Leonard
Jones, Geo. H. 561 Grand
Keating, Edward F. 75 John
Kiernan, W. J. 161 Pearl
Lathrop Co. 80 John
Lemon, Thos. K. 1179 Third av
Marsh Mantel & Heating Co. 293 Broadway
Mead, A. F. 446 W. 17th
Metcalf, Horace, 115 Beekman
Neil, Wm. 920 Ninth av
New York Safety Steam Power Co. 30 Cortlandt
New York Steam Fitting Co. 211 Centre
Pollock, Alex. 15 Cortlandt
Railway Lighting & Heating Co. 45 Broadway
Ransom, S. 357 West
Roberts, Geo. I. & Bros. 471-473 Fourth av (see add pp. 62, 63)
Simmons, John (jobber), 106-110 Centre (see add opposite Tenth Ward)
Smith, H. B. Co. The, 137 Centre
Smith, J. B. & Son, 158 Maiden la
Stretz, F. 100 Centre (see add p. 66)
Sturtevant, B. F. Co. 91 Liberty
Trask & Carmichael, 80 Centre
Tivy, Lawrence, 97 William
United States Supply Co. Ltd. 51 John
Wacelaer, Louis, 54 Beekman
Weinspache, Chas. 220 S. Fifth av
Wells & Newton, 44 Rose

STEAM HEATING APPARATUS MFRS.

Aller, A. 109 Liberty
American Radiator Co. 92 Centre, Judson A. Goodrich, mgr
Backus, Peter & Son, 133-135 W. 25th (see add p. 64)
Baker Heater Co. 556 W. 34th
Baker, Smith & Co. 81 W. Houston
Baker, Wm. C. 799 Greenwich
Barnard, Geo. A. 15 Cortlandt
Barron, Hugh J. & Co. 74 Reade
Bartlett, Hayward & Co. 94 Centre
Blackmore Heating Co. 88 John (see add p. 66)
Blake & Williams, 197 Wooster (see add p. 65)
Boltons, G. & J. R. Imp. Hot Water Heater, 114 Liberty, Geo. H. Raymond, mgr (see add p. 69)
Bonner & Van Court, 433-435 W. 42d
Boynton Furnace Co. 207-211 Water
Bramhall, Deane & Co. 264-266 Water
Carpenter, Allan, 103 N. Moore
Carr, A. & W. S. Co. 138-140 Centre
Cheney, Geo. W. & Son, 447 E. 136th
Clark, John D. 276 Water
Coldwell-Wilcox Co. 81 Fulton
Consolidated C. r Heating Co. 15 Cortlandt

Cox, Abram, Stove Co. 284 Pearl
 Dame & Townsend Co. 76 John
 Denny Bros. 36 Park pl
 Duplex Steam Heating Co. 23 Bethune and 136
 Liberty
 Eaton, Cole & Burnham, 82-84 Fulton
 Franklin, George, 142 Centre

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Steam Heating Apparatus and Hydraulic Pipe Work.
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 Gold Car Heating Co. 6 N. Y. and Brooklyn
 Bridge
 Gorton & Lidgerwood Co. 96 Liberty (see add
 front inside cover)
 Gouge Heating & Vent. Co. 47 Beekman
 Gray, Albert, 150 William
 Griffing, A. A. Iron Co. 15 Dey
 Gurney Hot Water Heater Co. 71 John
 Higgins & Co. 379 Lexington av (see add p. 67)
 Hogan Boiler Co. 280 Broadway
 Hopson & Chapin Mfg. Co. 172 Centre
 Howard & Morse, 45 Fulton (see add p. 5)
 Howard Foundry & Machinery Works, 114
 Liberty (see add p. 19)
 Hussey Reheater & Steam Plant Improvement
 Co. 15 Cortlandt
 Johnson & Morris, 114 Leonard
 Jones, Geo. H. 561 Grand

GEORGE H. JONES,
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McNab & Harlin Mfg. Co. 56 John
 Martin Anti-Fire Car Heater Co. 140 Nassau
 Nason Mfg. Co. 71 Beekman
 Neal's, John Sons, 218 Centre
 Newell Universal Mill Co. 23 Bethune and 136
 Liberty
 Pease, J. F. Furnace Co. 205 Water and 25
 Fulton, H. A. Springett, mgr
 Pierce, Butler & Pierce Mfg. Co. 42 Duane (see
 add p. 68)
 Pollock, Alexander, 15 Cortlandt
 Reilly, James, 229 West
 Richardson & Boynton Co. 232-234 Water
 Richardson & Morgan Co. The, 92 Beekman
 Rutzler, Enoch, 178 Centre and 5 Howard
 Safety Car Heating & Lighting Co. 160 B'way

Simmons, John, Co. 110 Centre (see add oppo-
 site Tenth Ward)
 Smith, H. B. Co. The, 137 Centre
 Sweeney, M. A. 577 Grand

M. A. SWEENEY,
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and Gas Fitting Works,
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 Engineers' Supplies constantly on hand.

Tivy, Lawrence, 97 William
 Vertical Tube Boiler Co. 2225 Third av
 Walworth Mfg. Co. 54 Gold
 Weathered's, Thos. W. Sons, 244 Canal (see
 add p. 65)
 Whittier Machine Co. 93 Liberty

STEAM HEATING AND
VENTILATING.

American Radiator Co. 92 Centre, Judson A.
 Goodrich, mgr
 Baekus, Peter, & Son, 133-135 W. 25th (see add
 p. 64)
 Baker, Smith & Co. 81 W. Houston
 Blackmore Heating Co. 88 John (see add p. 66)
 Blake & Williams, 197 Wooster (see add p. 65)
 Boltens, G. & J. R. Imp. Hot Water Heater,
 114 Liberty, Geo. H. Raymond, mgr (see add
 p. 69)
 Bonner & Van Court, 433-435 W. 42d
 Boynton Furnace Co. 207-211 Water
 Clark, John D. 276 Water
 Denny Bros. 36 Park pl
 Detroit Heating & Lighting Co. 126 Liberty
 (see add p. 144)
 Evans, Q. N. Construction Co. 41 Dey
 Franklin, George, 142 Centre
 Gillis & Geoghegan, 33 S. Fifth av
 Gorton & Lidgerwood, 96 Liberty (see add front
 inside cover)
 Gray, Albert, 150 William
 Griffing, A. A. Iron Co. 106 Liberty
 Gurney Hot Water Heater Co. 71 John
 Howard & Morse, 45 Fulton (see add p. 5)
 Hussey Re-Heater & Steam Plant Improvement
 Co. 15 Cortlandt
 Johnson & Co. 71 John
 Johnson & Morris, 114 Leonard
 Neil's, John, Sons, 218 Centre
 Peace, J. F. Furnace Co. 205 Water e. Fulton,
 H. A. Springett, mgr
 Pierce, Butler & Pierce Mfg. Co. 42 Duane
 Pollock, Alexander, 15 Cortlandt
 Richardson & Boynton, 232-234 Water
 Richardson & Morgan, 92 Beekman
 Roberts, Geo. I. & Bros. 471-473 Fourth av (see
 add pp. 62, 63)
 Rutzler, Enoch, 178 Centre and 5 Howard
 Smead Warming & Ventilating Co. 331 Madi-
 son av
 Smith, H. B. Co. The, 137 Centre
 Tivy, Lawrence, 97 William

U. S. Heating & Plumbing Co. 471 Fourth av

UNITED STATES HEATING & PLUMBING CO.

No. 471 FOURTH AVE.,

NEW YORK.

VENTILATING FANS.

Weathered's, Thos. W. Sons, 244 Canal (see add p. 65)

STEAM HOT BLAST APPARATUS.

Backus, Peter & Son, 133-135 W. 25th (see add p. 64)

Blake & Williams, 197 Wooster (see add p. 65)

Boltons G. & J. R. Imp. Hot Water Heater, 114 Liberty, Geo. H. Raymond, mgr (see add p. 69)

Fuller & Warren Warning & Ventilating Co. 257 Water

Howard & Morse, 45 Fulton (see add p. 5)

Smead Heating & Ventilating Co. 331 Madison av

Wing, L. J. & Co. 126 Liberty (see add opposite Eighth Ward)

STEAM JACKET KETTLES.

Ashcroft, John, Patent Grate Bar and Furnace

Door Mfg. Co. The, 73 Gold

Collins Iron Works. Wm. Collins & Son, props. ft. W. 21st

Curran, James, 512 W. 36th

Dame & Townsend Co. 76 John

Jochum & Jetter (copper), 148 E. 50th (see add p. 60)

Mott, J. L. Iron Works, 88-90 Beekman

Peterson, John, 100 Market

Reisert, A. & F. Orth (copper), 181 Prince and 122 Sullivan

Roos, August (copper for brewers), 232 W. 27th

Steeger, Henry (copper), 143-145 E. 31st (see add p. 112)

Trageser, John, Steam Copper Works (copper), 447-457 W. 26th (see add p. 111)

Whittier Machine Co. 93 Liberty

STEAM PACKING.

Acme Covering Works, 82 John

Backus, Peter & Son, 133-135 W. 25th

Balance Valve and Steam Piston Packing Co. 280 Broadway

Barnett, W. H. 584 Hudson

Beggs, James & Co. 9 Dey

Brandt, Randolph, 38 Cortlandt

Brundage, Percy H. 118 Chambers

Chalmers-Spence Co. 59-61 Liberty

Common Sense Metallic Packing Mfg. Co. 202 W. Houston

Connolly, Bartholomew F. 55 Cedar

Crandall Packing Co. 136 Liberty

Dekremen, D. & Co. 12 Cortlandt

Donegan & Swift, 11 Murray

Duval Metallic Packing Co. 43 John

Ellice, John & Co. 250 Fulton

Fossil Meal Co. 2 Cedar

Garlock Packing Co. 194 Water

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PALMYRA, N. Y. ROME, GA.

New York, 194 Water St.

Gilmour, Robert M. 82 John

Greene, Tweed & Co. 83 Chambers (see add p. 53)

Hine & Robertson, 45 Cortlandt

Johns, H. W. Mfg. Co. 87 Maiden la

Katzenstein, L. & Co. 357 West

Kearsbey, Robert A. 58 Warren

Leonard & McCoy, 118 Liberty

Mineralized Rubber Co. 18 Cliff

Moran & Saunderson, 53 Wooster

N. Y. Mineral Wool Co. 78 Cortlandt

Pollock, Alex. 15 Cortlandt

Roberts, Geo. I. & Bros. 471-473 Fourth av (see add pp. 62, 63)

St. John Cylinder Packing Co. 280 B'way

Saunderson & Wright, 53 Wooster

Swain Lubricator Co. 106 Liberty

Townsend, William, 19 Whitehall

Tupper, Frederick W. 39 Nassau

Walker, John, 139 E Broadway

White, George A. 36 John

STEAM PACKING, ASBESTOS.

Asbestos Felting Works, 79 Maiden la

Chalmers-Spence Co. 59 Liberty

Donegan & Swift, 11 Murray

Gilmour, Robert M. 82 John

Greene, Tweed & Co. 83 Chambers (see add p. 53)

Johns, H. W. Mfg. Co. 87 Maiden la

Kearsbey, Robert A. 58 Warren

White, George A. 36 John

STEAM PIPE AND BOILER COVERINGS.

Acme Covering Works, 82 John

Asbestos Felting Works, 79 Maiden la

Chalmers-Spence Co. 59 Liberty

Donegan & Swift, 11 Murray

Fossil Meal Co. 2 Cedar

Johns, H. W. Mfg. Co. 87 Maiden la

Keasbey, Robert A. 58 Warren

ROBERT A. KEASBEY,
Magnesia Sectional Coverings,
And Improved Cement Felting

For Boilers, Steam Pipes and all Heated Surfaces.

58 WARREN STREET,

Telephone Call, 512 Cortlandt.

NEW YORK.

Pollock, Alexander, 15 Cortlandt

White, George A. 36 John

STEAM PLANT CONTRACTORS.

American Radiator Co. 92 Centre, Judson A.
 Goodrich, manager

Backus, Peter & Son, 133-135 W. 25th (see
 add p. 64)

Bailey, W. R. & Co. 2057 Lexington av

Baker, Smith Co. Houston & S. Fifth av

Barnard Engineering Co. 15 Cortlandt

Barron, H. J. 76 Cortlandt

Black, Jos. R. 357 E. 40th

Blake & Williams, 197 Wooster (see add p. 65)

Bolton, Alex. G. 1665 Broadway

Boltons, G. & J. R. Imp. Hot Water Heater,
 Geo. H. Raymond, manager, 114 Liberty
 (see add p. 69)

Bonner & Van Court, 433-435 W. 42d

Brinkman, Louis H. 241 E. 42d

Bryan, Oliver, 2158 Seventh av

Clark, John D. 276 Water

Crossley, Chas. A. 32 Church

Crosson, James J. 543 W. 22d

Cuminsky & Dobson, 218 E. 42d

Curran, James, 512 W. 36th

Franklin, Geo. A. 142 Centre

Fuller & Warren Warming & Ventilating Co.
 257 Water

Gillis & Geoghegan, 33 S. Fifth av

Gouge Heating & Ventilating Co. 47 Beekman

Griffing, A. A. Iron Co. 15 Dey

Higgins, W. F. & Co. 379 Lexington av (see
 add p. 67)

Hitchings & Co. 233 Mercer

Hussey Reheater & Steam Plant Imp. Co. 15
 Cortlandt

Johnson & Morris, 114 Leonard

Klausman & Mayer, 2253 Third av

Morton Safety Heating Co. 45 Broadway

Pollock, Alex. 15 Cortlandt

Renahan, John, 142 E. 35th

Rutzler, E. 178 Centre

Smead Warming and Ventilating Co. 331
 Madison av

Smith, H. B. Co. The, 137 Centre

Smith, R. H. 6 Wall

Tivy, Lawrence, 97 William

Trask & Carmichael, 80 Centre

Weathered's, Thos. W. Sons, 244 Canal (see
 add p. 65)

Weymouth, E. F. 5 Howard

Wood, E. J. 243 Broadway

Wright, F. W. Frankfort & Cliff

**STEAM PRESSURE REGU-
 LATOR MFRS.**

Aller, A. (Curtis) 109 Liberty

Foster Engineering Co. 81-83 Fulton

Halloek Regulator Co. 44 Dey

Hine & Robertson, 45 Cortlandt

Kieley, Timothy, 7-11 W. 13th

**STEAM PUMP GOVERNOR
 AND TRAP.**

Backus, Peter & Son, 133-135 W. 25th (see
 add p. 64)

Kieley, Timothy, 11 W. 13th

Roberts, Geo. I. & Bros. 471-473 Fourth av
 (see add pp. 62, 63)

Safety Construction Co. 45 Wall

STEAM PUMPS.

Andrews, W. D. & Bro. 233 Broadway

Backus, Peter, 133-135 W. 25th (see add p.
 64)

Barr Pumping Engine Co. 126 Liberty

Blake, Geo. F. Mfg. Co. 97 Liberty

Blasi, Joseph, 54 W. Broadway (see add p.
 53)

Burdick Mfg. Co. 94 Liberty

Cameron, A. S. Steam Pump Works, 339-343 E.
 23d

Carr, A. & W. S. Co. 138-140 Centre

Craft, Jesse (centrifugal) 260 Front

Dauphin, Wm. 10 Reade

Davidson, M. T. 77 Liberty

Deane Steam Pump Co. 72 Cortlandt

DeLamater Iron Works, 21 Cortlandt (see add
 p. 57)

Donigan & Swift, 11 Murray

Duplex Steam Heating Co. 23 Bethune & 136
 Liberty

Edwards, Joseph & Co. (centrifugal) 412-415
 Water

Gordon Steam Pump Co. 98 Liberty

Hall Steam Pump Co. 91 Liberty

Holly Mfg. Co. 45 Broadway

Howard Foundry & Machine Works, 114 Lib-
 erty (see add p. 19)

Knowles Steam Pump Works, 95 Liberty

Manning, A. C. & Co. 18 Vesey (see add pp.
 15, 59)

Pollock, Alex. 15 Cortlandt

Pulsometer Steam Pump Co. (double acting).
 120 Liberty

**THE PULSOMETER,
 BEST AND CHEAPEST
 WATER ELEVATOR.**

Known for Irrigation and all Purposes.

Office, 120 Liberty St., New York.

See Advertisement, page 54.

Steam Radiator Guards.—Steam Road Roller.—Steam Traps.—Steam Valves and Gauge Cocks.

Rieker & Huekel, 101 Park pl
Rider, Thos. J. ft. W. 13th
Roberts, Geo. I. & Bros. 471-473 Fourth av
(see add pp. 62, 63)
Silsby Mfg. Co. 51 John
Smith & Vaile Co. The, 112 Liberty (see add p. 56)
Whittier Machine Co. John Helmer, manager
93 Liberty
Woodward Steam Pump Co. 10 Reade
Worthington, Henry R. 145 Broadway and
86-88 Liberty
Worthington Pumping Engine Co. 145
Broadway

STEAM RADIATORS.

American Radiator Co. Judson A. Goodrich,
manager, 92 Centre
Backus, Peter & Son, 133-135 W. 25th (see
add p. 64)
Blackmore Heating Co. 88 John (see add p.
66)
Blake & Williams, 197 Wooster (see add p.
65)
Boltons, G. & J. R. Imp. Hot Water Heater,
Geo. H. Raymond, manager, 114 Liberty
(see add p. 69)
Gessert, C. F. Co. 42 Dey
Griffing, A. A. Iron Co. 15 Dey
Roberts, Geo. I. & Bros. 471-473 Fourth av
(see add pp. 62, 63)
Titusville Radiator Co. (Ltd.) 64 Wall (see
add p. 66)

STEAM RADIATOR GUARDS.

DeWitt Wire Cloth Co. 32 Reade (see add p.
26)
Estey, W. S. 65 Fulton (see add p. 24)
Howard & Morse, 45 Fulton (see add p. 5)
McMurray, Robert T. & Bro. 141 Centre (see
add p. 25)

STEAM ROAD ROLLER.

Ostler, W. C. 43 Exchange pl

STEAM TRAPS.

Aller, A. (mfrs.' agt.) 109 Liberty
Backus, Peter & Son, 133-135 W. 25th (see
add p. 64)
Beggs, James & Co. 9 Dey
Blake & Williams, 197 Wooster (see add p.
65)
Bonner & Van Court, 433-435 W. 42d
Dame & Townsend Co. 76 John

Donegan & Swift, 11 Murray
Gold Car Heating Co. 6 N. Y. and Brooklyn
Bridge Warehouse
Jenkins Bros. 71 John
Kieley, Timothy, 11 W. 13th
McNab & Harlin Mfg. Co. 56 John
Nason Mfg. Co. 71 Beekman
Roberts, Geo. I. & Bros. 471-473 Fourth av
(see add pp. 62, 63)
Safety Electric Construction Co. (for steam
pumps) 45 Wall
Schuneman, C. H. 2-4 Howard
Weleh & Lawson, 205 Centre

STEAM VALVES AND GAUGE COCKS.

Arthur Co. The, 86 John
Asheroft Mfg. Co. 111 Liberty
Ashton Valve Co. 107 Liberty
Barr, Edward Co. (Ltd.) 78 John
Bonner & Van Court, 433-435 W. 42d
Carr, A. & W. S. Co. 138-140 Centre
Colwell Lead Co. 63 Centre
Consolidated Safety Valve Co. (mfrs. nickel
seated pop safety valves) 111 Liberty
Curtis & Co. 138-140 Centre
Dame & Townsend Co. 76 John
Dimock, Fink & Co. 80 John & 212 E. 25th
Eaton, Cole & Buraham Co. 82-84 Fulton
Fairbanks & Co. 311 Broadway
Gillis & Geoghegan, 33 S. Fifth av
Greeley, E. S. & Co. 5-7 Dey
Jamer, Jacob, 84 John
Jenkins Bros. 71 John
Johnson, Henry F. 1 Desbrosses
McLean, John (stop cocks) 298-300 Monroe
McNab & Harlin Mfg. Co. 56 John
Roberts, Geo. I. & Bros. 471-473 Fourth av
(see add pp. 62, 63)
Rutzler, Enoch, 178 Centre and 5 Howard
Stone, Fred. & Co. 62 Gold

STEEL AND IRON ROOFING MATERIALS.

Hedden, Eugene B. 35 Broadway (see add p.
42)
Lyon, W. E. 202 E. 46th (see add p. 46)
Moorehead-McCleave Co. 81 John
Moseley Iron Bridge & Roof Co. 5-7 Dey (see
add p. 49)
N. Y. Iron Roofing & Corrugating Co. 29
Broadway (see add p. 51)
Wallis Iron Works, 192 Broadway (see add
p. 38)
Wines, W. D. 44 Centre (see add opp. Sev-
enth Ward)

Steel Castings, Etc.—Steel Ceilings.—Steel Doors, Illuminating.—Steel Fence.—Steel
Fire Proof Theatre Curtains.—Steel Furnaces.—Steel Importers.

STEEL LBRICK.

N. Y. Iron Roofing and Corrugating Co. 29
Broadway (see add p. 51)

STEEL CASTINGS, ETC.

Collins Co. 212 Water
Hubbard, Charles & Co. 284 Pearl
Johnson, Isaae G. & Co. Spuyten Duyvil
Milliken Bros. 55 Liberty
Temple & Lockwood, 12 Platt
Wood, George R. 53 Broadway

STEEL CEILINGS.

Lyles & Mills, 231 William
McCallum, John & Co. 426 Washington st. and
36 Eleventh av
Northrup, Henry S. 30 Rose (see add opposite
Fourth Ward)
Pitt, William R. Composite Iron Works, 83
Reade
Prinee & Kinkel Iron Works, 729-731 First av
(see add p. 51)

STEEL DOORS, ILLUMINATING.

Prinee & Kinkel Iron Works, 729-731 First av
(see add p. 51)

STEEL FENCE.

Central Expanded Metal Co. 67 Reade, J. K.
Combs, manager (see add p. 114)

STEEL FIRE PROOF THEATRE CURTAINS.

Howard & Morse, 45 Fulton (see add p. 5)

STEEL FURNACES.

Boltons, G. & J. R. Imp. Hot Water Heater,
114 Liberty, Geo. H. Raymond, manager (see
add p. 69)
Pollock, Alex. 15 Cortlandt

STEEL IMPORTERS.

Abbott, Jere & Co. 23 Cliff
Belcher, Henry W. 59 John

Boker, Carl F. 101 and 103 Duane
Church & Sleight, 169 Fulton
Davis, James V. 93 Liberty
Douglas, George B. 115 Broadway
Frassee & Co. 92 Park row
Hernsheim, Louis, 40 Wall
Hobson, Francis & Son, 97 John
Hogan & Son, 18 Cliff
Hugill, Charles, 97 John
Jessop, William & Sons, Ltd. 91 John
Jones, B. M. & Co. 143 Liberty
Lee, James & Co. 72 Pine
Lown, William E. 10 Wall
Moss, Frederick W. 83 John
Naylor & Co. 48 Wall
Newton & Chipman, 83 John
Ogden, & Wallace, 85 to 91 Elm
Osborn, Samuel & Co. 143 Liberty
Prosser, Thomas & Son, 15 Gold
Stroud & Co. 104 John
Tubbs, Henry S. 80 John
Wardlow, S. & Co. 95 John
Wetherell Brothers, 93 Liberty
Whitney, Chas. W. 81 Fulton

STEEL MFRS.

Alleghany Bessemer Steel Co. 15 Broad
American Steel Co. limited (self hardening), 52
Wall
Anglo American Iron & Metal Co. 2 Platt
Baldwin, Stephen W. 2 Wall
Bessemer Mining Co. 146 Broadway
Bethlehem Iron Co. The, 80 Broadway
Burrows, Thomas C. 93 John
Cambria Iron Co. 104 Reade
Carnegie Bros. & Co. limited, 15 Broad
Carnegie, Phipps & Co. limited, 44 and 46 Wall
Carpenter Steel Co. 1 Broadway
Collins Co. 212 Water
Colville, David & Sons, 115 Broadway
Conley Lancaster Steel Mfg. Co. 171 Broadway
Corning, Edward & Co. 29 Broadway
Creseent Steel Co. 480 Pearl
Firth, Thomas & Sons, limited, Jere Abbott and
Co. agts. 23 Cliff
Fox Solid Pressed Steel Co. 115 Broadway
Frankfort Steel Co. 126 Liberty
Froment, Frank L. 112 John
Fuller Bros. & Co. 139 Greenwich
Gautier, D. G. & Co. 114 John
Gautier Steel Dep. Cambria Iron Co. 102 Cham-
bers
Gorman, Francis G. 15 Broad
Harney Steel Co. 52 Wall
Hernsheim, Louis, 29 Broadway
Hobson, Francis, Leaman & Co. 97 John
Hogan & Son, 243 Pearl
Howe, Brown & Co. limited, 93 John
Hussey, Howe & Co. 234 Broadway
Illinois Steel Co. 44 and 46 Wall
Ironton Structural
Jessop, Wm. & Sons, limited, 91 John
Jessop, F. W. & Co. 171 Broadway
Jewett, Geo. E. 81 Fulton
Joliet Steel Co. 46 Wall
Jonas & Colver, Carl F. Boker, agt. 104 John

Steel Plate and Embossing Presses.—Steel Pressure Blowers.—Steel Ranges.—Steel Sash Ribbon Pulleys and Attachments.—Steel Shutters, Self-Closing, Revolving.—Steel Wire Cloth.

Krupp, Fred. 15 Gold
 Lackawanna Iron and Coal Co. 52 Wall
 Lancaster, James H. 141 Broadway
 Lancaster Steel Mfg. Co. 141 Broadway
 McCargo, E. E. 242 Pearl
 Maryland Steel Co. 2 Wall
 Moorehead-McClearn Co. (sheet and plates), 81 John
 Nashua Iron & Steel Co. 171 Broadway
 Naylor & Co. 45 Wall
 New Jersey Steel and Iron Co. 17 Burling sl
 New York Solid Pressed Steel Co. 74 Cortlandt
 Odell, Chas. H. 15 Broad
 Otis Steel Co. limited, 15 Broad
 Park Bros. & Co. limited, 3 Cliff
 Passaic Rolling Mill Co. 45 Broadway
 Pennsylvania Steel Co. 2 Wall
 Pierson Steel Co. 24 West
 Pottstown Iron Co. (plates), 280 Broadway
 Scranton Steel Co. (billets), 47 Broadway
 Siedel & Hastings Co. The (boiler plates), 183 Christopher
 Singer, Nimick & Co. limited, 243 Pearl
 Standard Steel Works, 7 Nassau
 Sterling Steel Co. 280 Broadway
 Temple & Lockwood, 12 Platt
 Troy Steel and Iron Co. (railroad and merchant), 26 Broadway
 Union Drawn Steel, 102 Chambers
 Wardlow, S. & C. Frank S. Pilditch, agt. 95 John
 Waterman, H. L. 15 Broad
 Wellman Iron & Steel, 7 Nassau
 Wetherell Bros. 93 Liberty
 Whitney, A. R. & Co. 29 Broadway
 Whiton, Augustus S. 115 Broadway

STEEL PLASTERING LATHS.

Central Expanded Metal Co. J. K. Combs, mgr
 67 Reade (see add p. 114)
 Estey, W. S. 65 Fulton (see add p. 24)
 Howard & Morse, 45 Fulton (see add p. 5)

STEEL PLATE AND EMBOSSING PRESSES.

Rau, Martin, 39 Centre

STEEL PRESSURE BLOWERS.

Aller, A. 109 Liberty
 Beggs, James & Co. 9 Dey
 Donegan & Swift
 Pollock, Alexander, 15 Cortlandt
 Sturtevant, B. F. Co. 91 Liberty
 Townsend, Sylvanus S. 163-165 Washington

STEEL RANGES.

Boynton Furnace Co. 207, 209, 211 Water
 Bramhall, Deane & Co. 264 Water
 Cosmopolitan Range Co. 247 Centre and 169 Elm
 Duparquet, Huot & Moneuse Co. 43-45 Wooster
 James & Kirtland, 230 Water and 110-112 Beekman
 Richardson & Boynton Co. 233-235 Water
 Richardson & Morgan Co. 92 Beekman

STEEL SASH RIBBON PULLEYS AND ATTACHMENTS.

Morton, Thos. 65 Elizabeth
 Smith & Egge Mfg. Co. 62 Reade, J. J. Halpin, agt.
 Young, G. Wright Co. 50 Broadway (see add p. 86)

STEEL SHUTTERS, SELF-CLOSING, REVOLVING.

Clark, Bunnett & Co. 162-164 W. 27th
CLARK, BUNNETT & CO., Ltd.
STEEL SHUTTERS, &c.,
FIRE and BURGLAR PROOF.
162 & 164 West 27th Street.
 Works, London, Paris & New York.
FRANK A. HOWSON, Manager.
See Advertisement, page 45.

Wilson, James G. 64 W. 23d (see add p. 88)

STEEL WIRE CLOTH.

Howard & Morse, 45 Fulton (see add p. 5)
 Williams Globe Wire Works, 85 Fulton

STENCILS.

Stencill Company of N. Y. 215 E. 59th
STENCIL CO. OF N. Y.
 Bronzes, Fresco Stencils,
 Transfer Graining Paper.
 Designs to order. Letter Stencils, etc.
215 East 59th Street, NEW YORK.

Stone Bricks, Artificial.—Stone Cutters.—Stone Cutters', Contractors' and Masons' Tools.—
Stone Cutting Machinery Manufacturers.—Stone Cutters' Mallets.

STONE AND ORE CRUSHERS.

Beckett Foundry & Machine Co. 121 Liberty
Birmingham Iron Foundry, 85 Liberty
Copeland & Bacon, 85 Liberty
Frazer & Chalmers (crushers and pulverizers)
2 Wall
Frisbee-Lucop Mill Co. (pulverizers) 145
Broadway
Gates Iron Works Co. 44 Dey
Krom, S. R. 151 Cedar
Young-Brennan Crusher Co. 42 Cortlandt

STONE BRICKS, ARTIFICIAL.

North American Pyrogranite Co. 52 W. 15th
Stone Brick Co. 174 Chambers
U. S. Artificial Stone Co. Chas. H. Colman &
Co. 145 Broadway (see add pp. 136, 137)

STONE CUTTERS.

Brander, Wm. & Co. 648 W. 51st

WM. BRANDER & CO., STONE CUTTERS,

No. 648 West 51st Street,
Near 12th Avenue, NEW YORK.
E. ZEHEMISCH, Manager.
All Orders Promptly Executed. Jobbing a Specialty.

STONE CUTTERS', CON- TRACTORS' AND MA- SONS' TOOLS.

American Pneumatic Tool Co. The (pneu-
matic) 431 Eleventh av
Collins Co. 212 Water
Hauschildt, F. & Co. 456 E. Houston
Jackson, T. A. (diamond tools) 654 W. 34th
McBain, Thomas A. 651 W. 46th
Mead, I. W. 411 E. 23d
Mead, Isaac V. Tool Works, 370 Av. A. (see
add p. 107)
Topping & Fox (infrs'. agents) 96 Chambers

STONE CUTTING MACHIN- ERY MFRS.

Jackson, T. A. (gang saws, rubbing beds and
planers) 654 W. 34th

Manning, Maxwell & Moore, 111-113 Liberty
Mitchell & Boyeson, 149 Eleventh av

STONE CUTTERS' MAL- LETS.

Hauschildt, F. & Co. 456 E. Houston

NEW YORK Mallet and Handle Works, FR. HAUSCHILD & CO., PROPS.,

Manufacturers of Caulkers', Carpenters', Stone Cutters',
Tin, Copper and Boiler Makers'

MALLETS.
456 East Houston St., near Lewis St., N. Y.

STONE DEALERS, ARTIFICIAL.

Barber Asphalt Paving Co. The, 1 Broadway
Bauhan, Gustav E. 2154 Second av
Becker, Alex. R. 672 Columbus av
Carawattia, M. 527 W. 28th
Colman, Chas. H. & Co. 145 Broadway (see
add pp. 136, 137)
De Comean, W. 186 W. 4th
Denton & Ahlstrom, 2 Stone
Eagle Artificial Stone Works, 164 E. 84th
Empire Paving and Construction Co. 21 State
Granitic Sidewalk & Vitrified Block Paving
Co. 171 Broadway (see add p. 135)
Henninger, A. & Co. 306 E. 116th
Hilgers, Wm. 163 W. 104th
Hygienic Concrete Co. 52 Broadway
Kirchner, Chas. 73 Cannon
Koster, Chas. 5 Park pl
Lawrence, Frederick W. Central bldg. 143
Liberty
Lehmann, Charles, St. Nicholas av & 119th
McIntyre, Peter, 443 Eleventh av
Macknight Flintic Stone Co. 150 Broadway
(see add p. 7)
Meyer, Louis, 1066 Madison av
Mosher Bros. 151 W. 128th
Neuchatel Asphalt Co. 265 Broadway (see
add p. 135)
No. American Pyrogranite Co. 52 W. 15th
Schillinger Fire Proof Cement and Asphalt
Pavement Co. 401-413 E. 91st
Schneider, N. 652 E. 12th
Spengler, Wm. 164 E. 84th
Stark, John H. & Co. 328 E. 102d
Taylor, Matt. Paving Co. 15 State (see add
p. 134)
Tomkins, Calvin, 150 Broadway (see add p.
140)
U. S. Artificial Stone Co. Chas. H. Colman &
Co. 145 Broadway (see add pp. 136, 137)
Wehn Pavement Co. 143 Liberty

Westermayer, Edward, 416 E. 114th
 Wilson & Baillic Mfg. Co. 45 Broadway
 Woodward, C. F. 247 Broadway

STONE DEALERS, BLUE.

Bailey, George L. 38 Park row
 Bedford Oolitic Stone Co. 1-3 Union sq.
 Bigelow Blue Stone Co. 280 Broadway
 Bliss, Edward, 137 Broadway
 Boice, Hewitt, 280 Broadway

HEWITT BOICE,

Wholesale Dealer in

NORTH RIVER & PENNSYLVANIA BLUE STONE

N. Y. Office, 280 Broadway, Room 60.

General Office, Rondout, NEW YORK.

See Advertisement, page 129.

Brainard & Clark, 243 Broadway
 Chandler, Nelson, 145 Broadway
 Clarke, F. G. Blue Stone Co. 542 W. 21st
 Coles, Samuel, 280 Broadway
 Condon, James B. 882 E. 169th
 Coogan, Wm. 2505 Vanderbilt av
 Crawford, Wm. 630 W. 51st
 Dickinson, A. S. & H. M. 443 W. 14th
 Dolan, James F. 412 E. 105th
 Dunn, Thomas J. Av. A n E. 68th
 Erie Blue Stone Assn. 280 Broadway
 Fichtel, Chas. F. 138th & Fourth av

CHAS F. FICHTEL,

DEALER IN

Granite & North River Bluestone

138th STREET, near 4th Avenue,

NEW YORK.

Flynn, John, First av c. E. 102d
 Frank, Simon L. 38 Park row
 Golding, Patrick, 607 W. 54th

Haiduven's, J. Sons, 492 E. 134th
 Hannon, John T. 80th bet. Av. A & Av. B
 Harris, Benjamin T. 640 W. 51st
 Howser, Horace, 84 Eleventh av
 Hurley Stone Co. 1 Broadway
 Lenahan, John M. ft. 102d
 Lockwood, Alexander W. 130th, n Twelfth av

Lockwood, David T. 280 Broadway
 Low & Flogan, 483 E. 138th
 Lowe, Wm. S. 336 E. 93d
 McDonald, John T. 427 E. 61st
 Mack, James, 542 W. 47th
 Mahoney, Richard J. 417 E. 48th
 Marine, Aralando, 38 Park row
 Marrey, Benjamin, 655 W. 52d
 Masterson & Neary, ft. E. 80th
 Maxwell, Wm. H. 280 Broadway
 Meyers, Augustus, 542-548 W. 21st
 Moran, Dennis W. Av. A, c. E. 65th
 Nelson, Wm. 7 Chambers
 North River Blue Stone Co. 137 Broadway
 O'Brien & Schumann, 140th & Morris av
 Osborne, Thomas, 91st & 92d, E. R.
 Osterhoudt, Julius, 280 Broadway (see add p. 129)

Pirsson, F. M. & Co. Lincoln bldg, 1-3 Union sq

Reynolds, A. 325 E. 107th
 Riteli, Thos. & Son, 408 Front
 Rockledge Blue Stone Co. Third av & 136th
 Roff, B. B. & Son, 222 W. 51st
 Sandy Hill Quarry Co. 71 Broadway
 Seully & Moran, ft. E. 100th

SCULLY & MORAN,

Dealers in all kinds of

North River Blue Stone,

Sills, Lintels, Steps, Coping, &c.

Yard, 100th St. and East River, New York.

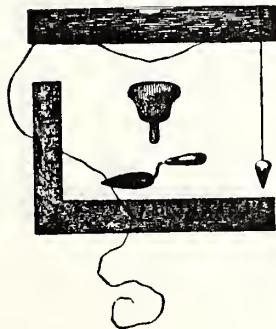
FLAGGING FURNISHED AND SET.

J. H. SCULLY.

J. W. MORAN.

Seaman, Selah D. 315 E. 127th
 Shurter, Pratt, 280 Broadway

THIS IS AMERICA'S BEST BUILDING STONE.



MOST ENDURING.

RICHEST APPEARING.

It is quarried from the largest and most powerfully equipped

Quarry in New Jersey, by the

Passaic Quarry Company.

NEW YORK OFFICE:

POTTER 38 PARK ROW BUILDING.

Rooms 208-213.

H. H. BOWMAN, *Pres't and Treas.*

A. B. SMITH, *Vice-Pres't and Sec.*

JOSEPH FOSTER, *Superintendent.*

QUARRIES AT AVONDALE, N. J.

CAPACITY, 1,000 CUBIC FEET PER DAY.

SEND FOR CIRCULARS, PRICE LIST AND SAMPLES.

Stewart, Robert, 504 W. 13th
 Stockinger, Jacob, 430 E. 62d
 Sweeney, E. & Sons, 229 Broadway
 Thompson, Robert G. 149 E. 130th

ROBT. C. THOMPSON,

Dealer in all Kinds of

NORTH RIVER BLUE STONE.

YARD, 130th STREET,

Bet. Lexington and Third Aves., NEW YORK.

Sills, Lintels, Steps, Flagging, Coping, &c. Jobbing
 Promptly Attended to. Estimates Furnished.

Tomkins, Calvin, 150 Broadway (see add p. 140)

Treanor, James J. & F. P. 547 W. 45th
 Ulster Blue Stone Co. 280 Broadway, room 71

ULSTER BLUE STONE CO.,

WHOLESALE & RETAIL DEALERS IN

North River and Pennsylvania Blue Stone.

Room 71, Stewart Building,

280 BROADWAY, NEW YORK.

See Advertisement, page 128.

Vesey, John, 1125 First av
 Voorhis, Jacob, 403 E. 42d
 Warsaw Blue Stone Co. Lincoln bldg, 1-3
 Union sq
 Williams, Warren S. jr. Av. A, c. E. 66th
 Woodward, C. F. 247 Broadway

STONE DEALERS, BROWN.

Algie & Son, 984 Ninth av
 Bailey & Frank, 38 Park row
 Blackhurst, James, ft. W. 50th
 Brander & Co. 650 W. 51st
 Brennan, Thomas J. ft. W. 57th
 Coleman, Richard E. Railroad av & 157th
 Excelsior Brown Stone Co. 44 Broadway
 Gillies, James & Sons, ft. W. 50th

Gillie, George B. & Joseph B. 161st and Jerome av

Hanlon & Ryan, ft. E. 81st

Henry, M. C. & Co. E. 79th, n Av. A

Hillemeir, Charles, 321 E. 92d

Hughes, Scanlon & Thompson, Av. A, c. E. 67th

Jackson & Shuttleworth, First av, n. E. 94th

Kane, R. W. & Co. Rider av n 140th

Kelly, John, Rider av n 139th

Light & Louter, 402 E. 107th

Low & Flogans, 483 E. 138th

Lyons, Thomas, 106th & First av

Manifold, Richard A. Rider av, c. E. 141st

Maxwell, David A. 428 E. 48th

Miller, David, First av & 93d

Mills, Andrew, 610 W. 57th

Morris & Cahill, 504 E. 81st

Morton Bros. & Co. ft. W. 54th

Mulligan, Michael & Son, 425 E. 53d

Murtaugh, James & Son, E. 136th, n S. Boulevard

Neary, Peter & Co. ft. E. 82d

Norcross Bros. 81 E. 125th

Osborne, Thomas, 1753 Av. A

Passaic Quarry Co. 38 Park row

AMERICA'S BEST BUILDING STONE.

The Passaic Quarry Co.'s

Famous Belleville Gray and Brown Stone.

PASSAIC QUARRY CO.,

New York Office, No. 38 Park Row.

See Advertisement, page 201.

Portage Red Stone Co. 38 Park row
 Prentice Brown Stone Co. 44 Broadway
 Roff, B. B. & Son, 811 Seventh av
 Russell, John, 659 W. 51st
 Ryan & Rawnsley, 316 E. 64th
 Schaeffer, Frank & Sons, 404 E. 48th
 Schlegelmilch, Adam M. 420 E. 18th
 Schmitt, Frank, 413 E. 121st
 Setz, J. R. & Co. ft. E. 79th

The Famous Belleville Gray *and* Brown Stone.

AMERICA'S BEST BUILDING STONE.

MOST ENDURING.

RICHEST APPEARING.

IS QUARRIED BY

Passaic Quarry Company.

NEW YORK OFFICE:

POTTER 38 PARK ROW BUILDING.

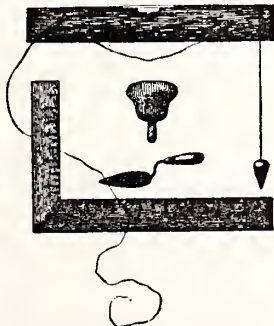
Rooms 208-213.

H. H. BOWMAN, *Pres't and Treas.*

A. B. SMITH, *Vice-Pres't and Sec.*

JOSEPH FOSTER, *Superintendent.* QUARRIES AT AVONDALE, N. J.

This Company's High Grade Belleville Stone is *Guaranteed against Concealed Defects.* Prompt deliveries of large quantities made from the largest and most powerfully equipped quarry in New Jersey. Direct Water Route from Quarry to N. Y. City. Sample Circulars and Price Lists sent on Application at our expense. *Capacity, 1,000 cubic feet per day.*



Shuttleworth, Edwin, 94th & First av
 Smith, John R. ft. E. 103d
 White, Geo. W. 4 W. 22d
 Woodward, C. F. 247 Broadway
 Young, George, 121 W. 125th
 Young & Farrell Diamond Stone Saving Co.
 Railroad av and 138th
 Young & McLatchie, Railroad av 138th

STONE DEALERS, CON- CRETE AND MACADAM.

Bouker Construction Co. 110 Wall (see add p. 141)

Brown & Fleming, 129 Broad
 Campbell, Robert A. 428 E. 48th

ROBERT A. CAMPBELL, CONTRACTOR AND DEALER IN ALL KINDS OF BROKEN STONE, SAND & GRAVEL

Yard & Office, 428 East 48th St., N. Y.

Machine Broken Stone, Sand and Gravel Furnished by
 Cargo or Cart Load at Lowest Prices, Orders Promptly At-
 tended to.

Howell, A. J. 336 W. 19th
 Tomkins, Calvin, 150 Broadway (see add p. 140)
 Woodward, C. F. 247 Broadway

STONE DEALERS, FREE.

Clark & Dolan, Av. B n E. 82d
 Cleveland Stone Co. 51 Chambers
 Cullen, John E. 107th & First av
 Dempsey & Smith, 440 E. 113th

DEMPSEY & SMITH, STEAM STONE WORKS, 440 EAST 113th STREET,

And Pleasant Ave. (or Ave. A), bet. 112th & 113th Sts., E.R.
NEW YORK.

See Advertisement, page 126.

Dorchester Union Freestone Co. 24 Pine
 Ellin, Kitson & Co. ft. W. 25th
 Fleming, Howard (Scotch red) 23 Liberty
 Gill, R. & Sons. ft. E. 106th
 Gillie, George B. Third av n E. 165th
 Hanlein & Co. 415 E. 103d
 Hillemeier & Donnelly, 92d and First av
 Hutchinson, John & Sons, 2383 First av
 Judd, W. J. 245 Broadway
 Light & Louthier, 402 E. 107th
 Malone Stone Co. 202 Potter bldg, 33 Park row
 Marine, Arlando, 38 Park row
 Miller, David, 401 E. 93d
 Mills, Andrew, 610 W. 57th
 Morris & Cahill, 504 E. 81st
 Morton Bros. & Co. ft. W. 54th
 Murray, Marcus, Pleasant av e. E. 114th
 Murtaugh, John J. 430 E. 110th
 N. Y. Freestone Quarrying Co. 54 Pine
 Pirsson, F. M. & Co. Lincoln bldg, 1-3 Union sq

Russell, Robert, ft. W. 51st
 Shuttleworth, Edwin, 94th and First av

Yorkville Steam Stone Works.

EDWIN SHUTTLEWORTH,
 PROPRIETOR.

**Cor. 94th St. & First Ave.,
 NEW YORK.**

Latest Improved Stone Working Machinery.

Sinclair, James & Co. 413 E. 29th
 Smith, John R. ft. E. 103d
 Suss, Scheubner & Frederick, ft. E. 109th
 Tulloch, David, 302 E. 108th

DAVID TULLOCH, CONTRACTOR FOR ALL KINDS OF FREE STONE,

No. 302 EAST 108th STREET.

White, George W. 4 W. 22d
 Williams, B. A. & G. N. jr. Av. A e E. 68th
 Woodward, C. F. 247 Broadway

C. F. WOODWARD, General Stone Agent and Dealer,

247 BROADWAY,

C. W. NISBETT. NEW YORK.

Young & McLatchie, Railroad av and 138th

STONE DEALERS, GRAN- ITE.

Am. Stone Co. 53 Broadway
 Batterson, See & Eisele, 425-431 Eleventh av
 Binswanger, Hyman P. 140 Nassau
 Booth Bros. & Hurricane Isle Granite Co. 60
 Bank

Booth Bros. and Hurricane Isle Granite Co., OF NEW YORK.

QUARRIES: Millstone Point, Niantic, Conn.; At-
 lantic, St. George, Me.; Hurricane Isle, Knox Co., Me.;
 State Point, St. George, Me.; Long Cove, Tenants Harbour,
 Me.; Granite Island, Vinal Haven, Me.; Pequoit Vinal
 Haven, Me.

60 Bank Street, New York.

Telephone, 18th St., 922.

See Advertisement, page 124.

Browne, McAllister & Co 435 W. 14th (see add
 p. 126)
 Canfield, Charles B. 1321 Broadway
 Cassidy, Bernard W. 635 W. 50th
 Catherwood, Robert B. 40 Broadway
 Clark Island Granite Works, 5 Beekman
 Connecticut River Granite Co. 129 Broad
 Dolan, J. F. 412-424 E. 105th

Doyle, George, 31 Broadway

GEO. DOYLE,

Indiana Limestones & Granites,

No. 31 BROADWAY,

NEW YORK.

Eastern Granite Co. 6 E. 42d
Fisher, Robert C. & Co. 97 E. Houston
Fishtel, Chas. F. 138th and Third av
Francis & Albertson, 67 W. 23d
French, Hamline Q. 50 Broadway
Garity Bros. 18 W. 14th
Garrett, Wm. E. Woodlawn
Girdwood, G. D. M. 10 Wall
Guidet, Charles, 237 Broadway
Hall, Cyrus J. 198 Times bldg
Herow, Louis, ft. E. 103d
Howser, Horace, 84 Eleventh av
Hudson & Chester Granite Co. 5 Beekman
Hudson River Stone Supply Co. 45 Broadway
Hummel, James H. 153 Fulton
Kidney, Wm. Av. A and 61st
L'Huillier & Marsh, 19 Broadway

THE NEW JERSEY TRAP ROCK CO.,

**Broken Stone for Concrete and
McAdam.**

L'HUILLIER & MARSH, Agents,

19 Broadway, New York.

Logan, Robert, 99 Nassau
McGrath, Michael E. Av. B n E. 81st
Macray & Brother, 558 W. 43d

**MACRAY & BRO.,
GRANITE WORKS,**

No. 558 & 560 West 43d Street,

Bet 10th and 11th Avenues, NEW YORK.

All Kinds of Building, Monumental and
Cemetery Work.

See Advertisement, page 126.

Marks, E. Edmund, 229 Broadway
Moran Brothers, 333 E. 93d
Mower, E. & Co. 82 Nassau
Nelson, W. H. 126 Liberty
New England Granite Works, 431 Eleventh av
New England Monument Co. 1321 Broadway
New York and Maine Granite Paving Block
Co. The, 5 Beekman
Norcross Bros. 81 E. 125th
Orr Brothers, Av. A c E. 62d
Passaic Quarry Co. 38 Park row (see add p.
566)
Peirce, John, 5 Beekman
Petersburg Granite Quarrying Co. 38 Wall
Pirsson & Renwick, 19 Park pl
Pratt & Molleson, 129 Broad
Randall, Andrew, 53 Broadway
Randall, John L. 53 Broadway
Richmond Granite Co. 140 Nassau

Ritch, Thomas & Son, 408 Front
Robinson, William, 1146 Broadway
Scully & Moran, 100th and E. River
Smith, T. Rhys, 190 Stewart bldg
Tayntor, C. E. & Co. 239 Broadway
Totoket Granite Co. Pulitzer's World bldg, 63
Park row
Townsend William C. 138 Fifth av
Turner, William, 36 Broadway
Ulster Granite Co. 19 Whitehall
Union Granite Co. 168 Pearl
Voorhis, Jacob, 403 E. 42d
Walling, James H. 154 Nassau
Westerly Granite Co. Ltd. 10 W. 23d
White Granite Co. The, 547 W. 14th

N. G. White, Pres't. A. Le'Poidevin, Manager.
J. E. Dutton, Sec. and Treas.

The WHITE GRANITE CO.,

Formerly N. G. WHITE & Co. and GATES & PARK.
Manufacturers of and Dealers in all Kinds of

GRANITE,

Main Office, 547 West 14th Street, New York,
Telephone, 444 18th St.

See Advertisement, page 125.

Wilcox, Giles H. Av. C and 66th
Wills & Dyer, 410 E. 92d
Woodward, Charles F. 247 Broadway

STONE DEALERS, MARBLE

Beech Island Marble Co. Ltd. 80 Broadway
Brown & Magowan, 520 W. 20th
Clarkson, T. S. 55 Liberty
Davidson Sons' Marble Co. 27th and Eleventh
av (see add p. 123)
Ellin, Kitson & Co. ft. W. 25th
Feeney & Devanny, 326 E. 23d
Fisher, Robert C. & Co. 97-103 E. Houston
Fritsch, Emil, 519 W. 20th
Hall, George E. 57 William
Hart, Patrick F. 57 Eighth av
Hoffman & Prochazka, 15 E. 12th
Kelley, Hugh G. 157 E. 85th
Klaber, S. & Co. 47 W. 42d
Kubin, Joseph, jr. 681 Elton av
McLean, John, 298 Monroe
Maxwell, Crawford, 343 South, 403 Front
Mexican Onyx Quarry Co. 46 Wall
Mexican Onyx and Trading Co. 1 Broadway
Mycenian Marble Co. 533 W. 59th (see add
opp. p. 200)
Nautahala Marble and Talc Co. 95 Nassau
Parson, Henry E. 54 Pine
Rickard & Hewitt, 104 John
Rist & Maxwell, 466 Cherry
Snowflake Marble Co. 155 Broadway
Stevens, Austin, 165 Broadway
Stevenson & Blew, 427 W. 14th
Strong & Gunnison, 5 E. 17th
Taber & Co. 714 Water
Taconic Marble Co. 280 Broadway
Tuckahoe Marble Co. 413 E. 29th
Vermont Marble Co. 2 Wall
Weber, George, 66 Suffolk

STONE DEALERS, ONYX,

Batterson, See & Eisele, 431 Eleventh av
Davidson Sons' Marble Co. Eleventh av & 27th
(see add p. 123)
Ellin, Kitson & Co. ft. 25th and N. R.
Fisher, Robert C. & Co. 97-103 E. Houston
Klaber, A. 238 E. 57th
Mexican Onyx and Trading Co. 1 Broadway

STONE, FLINTIC, MFRS.

Maeknight Flintie Stone Co. 150 Broadway (see
add p. 7)

**STONE, GRANOLITHIC,
MFRS.**

Robinson Stoneware Co. 259 Water, Br'klyn
Taylor, Matt. Paving Co. 15 State (see add p.
134)

**STOVES, FURNACES AND
RANGES.**

Abbott's, M. Sons, 137 Eighth av and 316 W.
16th
Abendroth Bros. 109 Beekman and 282 Pearl
Alexander, Marcus, 132 Delaney
American Stove Board Co. 206 Water
Anderson, Frederick, 2349 First av
Anderson, Jesse, 43 Duane
Andrews, P. H. 2295 Eighth av
Axtmann, A. 201 E. 110th
Axtmann, Charles, 1602 Third av

CHARLES A. AXTMANN,**Ranges, Furnaces and Heaters,**

1602 Third Ave., cor. 90th St.,

Branch Office, 45 East 125th St., **NEW YORK.**

Locksmithing, Electric and Mechanical Bell Hanging.
Roofs Repaired and Painted. Jobbing a Specialty.

Barstow Stove Co. 120 Beekman
Baumann, Charles, 291 Seventh av

Established 1857.

CHARLES BAUMANN,**STOVES, RANGES, TIN WARE,**

House Furnishing Goods and Crockery.

291 SEVENTH AVE., bet. 26th & 27th Sts., N. Y.

Roofs Repaired and Painted. Ranges, Heaters and
Furnaces Cleaned, Repaired and Set, Etc.

Beebe Ranges and Furnaces, 110 Beekman
Beinert, E. & Sons, 69 Beekman
Bellamy, Jesse F. 53 Manhattan
Blackledge, Peter J. 201 W. 23d
Bolton, Alexander G. 1665 Broadway
Boynton Furnace Co. 207-211 Water

Brady, P. & Co. 863 Sixth av
Bramhall, Deane & Co. 264 Water
Brinkman, Louis H. 241 E. 43d
Burrows, C. M. 106 Beekman
Butler, John Q. A. 262 Water
Canfield, Abraham L. 284 Pearl
Chace, Earl B. & Co. 206 Water
Chapman, David F. 228 Eighth av
Clayton, H. & Co. 7 Murray
Colby, E. B. & Co. 237 Water
Cort, Joshua H. 119 Beekman and 220 Water
Corwin, M. M. 258 Water
Cory, Uzal & Co. 210 Water
Cosmopolitan Range Co. 247 Centre
Cox, Abram, Stove Co. 284 Pearl
Crandall & Godley Co. 157 Franklin
Creevy, Thomas, 522 Grand
Daly, J. 907 Sixth av
Danville Stove and Mfg Co. 284 Pearl
Dexheimer, Matthew, 2478 Eighth av
Dirmann, Antonio, 32 Thompson
Dode, Dederick, jr. 549 Third av
Doerge & Herman, 556 Eleventh av
Dour, John F. 161 W. Broadway
Downs, John, 106 W. 42d
Drew, B. J. 113 South
Duparquet, Huot & Moneuse Co. 43 Wooster
Ehrlich, Moritz, 194 Second av
Elterich Art Tile Stove Works, 106 Beekman
Ely & Ramsey Co. 247 Water
England, Richard, 54 W. 29th
Evans, Geo. 237 Front
Fairchance Furnace Co. 111 Broadway
Federroll, R. 267 W. 35th
Feld, George A. 162 E. 129th
Fihler, Nathan, 53 Attorney
Finch, E. B. 339 Front
Foster, Chas. 1047 Third av
Frank & Bro. 97 Sixth av
Froelich, Andrew (estate of) 289 Pearl (repairs)

Est. of A. FROELICH,

Manufacturers of all kinds of

REPAIRS FOR STOVES, RANGES & HEATERS

Job Casting a Specialty.

289 PEARL ST., Near Beekman, New York.

Branch Store, 41-45 Walworth St.; Foundry, 42-46 Sand-
ford St., Brooklyn, N. Y. JOHN M. WOLF, Manager.

Fuller & Warren Co. 236 Water
Ganz, Henry, 7 Ave. C
Gennerich, Henry, 201 Hester
Goldblatt, Leopold, 787 Eighth av
Goodman, Herman, 59 Baxter
Graff & Co. 208 Water
Graham, David S. 2136½ Eighth av
Grasse, Chas. 1644 Second av
Gries, B. 1485 Second av
Hallett, Granville G. 236 Water
Hanover, Samuel J. 708 Ninth av
Harder, A. L. 316 Hudson
Harvey & Co. 1325 Broadway
Heim, Frank, 95 Forsyth
Hembury, James, 25 Counties slip
Herche, Frederick, 316 E. 39th
Herrlich, M. M. 144 Standard
Herrmann, George, 79 Chrystie
Hicinbotham, William, 1804 Park av
Hickson, W. S. 645 Sixth av
Hindley, Thomas & Son, 819 Sixth av

Hoetzel, Max, 715 Courtland av
 Holbrook, Merrill & Stetson, 218 Water
 Jack, Archibald, 2145 Second av
 Jackson, A. E. 2437 Eighth av
 Jacobson, Louis, 856 Second av
 Jahn, Andrew, 96 W. Houston
 James & Kirtland, 112 Beekman, 242 Water,
 and 744 Westchester av
 Josephowitz, Henry, 554 Ninth av
 Kalbert, A. 172 Essex
 Kallman, Leopold, 374 Grand
 Kallman, Myer, 1360 Third av
 Kann, Morris, 229 Second
 Keeley, Mary E. 478 Sixth av
 Kellar & Beebe, 129 Beekman
 Kennedy Bros, 417 Willis av
 Ketchum, L. 23 W. 125th
 Keyes, Thomas, Boulevard n W. 74th
 Keyser, John H. 115 Beekman
 Kirk, Chas. H. 1109 Washington av
 Klenert, Jacob, 364 Grand
 Klopff, Michael, 144 First av
 Koch, Franz, 73 Orchard
 Lahm, Christian, 446 Ninth av
 Lane, Ira G. 207 E. 64th
 Lang, Morris, 2042 Third av
 Lenz, F. W. 145 Fourth av
 Levy, Abraham, 132 E. Broadway
 Levy, L. 6 Jefferson
 Lincoln, J. D. & C. C. 236 Water
 Lippiatt, T. Franklin, 587 Columbus av
 Lovell, Henry S. 24 Carmine
 Lucas, John, 1390 Tenth av
 Luckert, Peter, 513 E. 11th
 Lum, L. 6 Jefferson
 Lurch, Edward, 1259 Glover
 Lyon, James G. 248 Water
 McDonagh, J. 255 Spring
 McGarity, Robert, 1075 Third av
 McGregor Furnace Co. 115 Beekman
 McKaig, John, 60 Eighth av
 McNulty, Edward, 209 E. 42d
 McTague, Patrick, 108 Bayard
 Magee Furnace Co. 117 Beekman
 Maguire, Andrew, 4 Stuyvesant
 Mantel, Charles, 52 Carmine
 Marks, Morris, 115 Bowery
 Mehrtens, John, 931 Sixth av
 Metcalf, Horace, 115 Beekman
 Miller, H. 1803 Second av
 Mishel, Ferdinand, 103 E. 9th
 Molten, Charles, 129 Elm
 Monsees, Herman W. 59 Bowery
 Morris, A. & V. 66 Hester
 Mott, J. L. Iron Works, 88 Beekman
 Munsell, Eugene & Co. 218 Water
 National Stove Co. 244 Water
 Nehemya, Hyman, 83 Norfolk
 Newland, W. J. 933 Columbus av
 New York Elbow Co. 18 Cliff
 Nugent, Thomas, 214 E. 80th
 Obenauer, Matthias, 192 Orchard
 Packard Sea King Caboose Co. 39 South
 Pasco & Palmer, 1293 Broadway
 Pease, J. F. Furnace Co. 205 Water c. Fulton
 Peekskill Stove Works, 12 Peck slip
 Peerless Portable Oven Co. 145 Mulberry
 Perry Stove Co. 74 Beekman
 Pinkert, Pincus, 250 Division
 Ploch, Bernhard, 97 Delancy
 Poppe, Henry, 402 W. 31st
 Puffer, William E. 66 Beekman

Rauh, Adolph, 345 E. 78th
 Raymond & Campbell Mfg. Co. 35 Peck slip
 Regan, William H. 28 Carmine
 Richardson & Boynton Co. 232 Water
 Richardson & Morgan Co. 92 Beekman
 Richmond Stove Co. Norwich, Conn. W. F.
 Higgins & Co. agts. 379 Lexington av (see
 add p. 67)
 Robinson, Thomas, 204 First av
 Rooney, John, 425 E. 15th
 Rutledge, Charles, 328 Eighth av
 Savery, Bartlett M. 26 Cliff
 Schader, Joseph, 145 W. Broadway
 Scherrer, C. 448 Seventh av
 Schipf, John A. 218 E. 125th
 Schmitz, Henry, 506 Pearl
 Schultz, Gerhard, 301 Bowery
 Sheppard, Isaac A. & Co. 1801 N. 4th, Phila-
 delphia, Pa. (see add p. back inside cover)
 Sheridan, John, 2059 Second av
 Sherwood Bros. 170 E. 62d
 Sibbald, John W. 2635 Eighth av
 Simonds, The, Mfg. Co. 50 Cliff
 Southard, Robertson & Co. 257-259 Water and
 21-27 Peck slip
 Starrett, George, 227 Water
 Steinman, C. 1280 Third av
 Strachan, Robert W. 355 Eighth av
 Stretz, F. 100 Centre (see add p. 66)
 Suiger, S. 12 Ave. B
 Suydam, Samuel A. 327 and 550 Hudson
 Tamor, Mendel, 38 Ludlow
 Teets, Albert & Co. 605 Eighth av
 Teets, David, 507 Eighth av
 Thatcher Furnace Co. 33 Peck sl
 Thatcher, Isaac N. 254 Water
 Thomas, Roberts, Stevenson Co. 250 Water
 (see add p. 68)
 Tillack, Hermann, 100 Centre
 Tomback, Samuel D. 2085 Second av
 Union Stove Works, 70 Beekman and 66 Gold
 Unsold, George, 604 Ninth av
 Utter, Samuel S. 113 Beekman
 Valentine, B. C. & Co. 219 Greene
 Vanvleck, Henry B. 83 Fulton
 Viereck, H. 421 Third av
 Voelker, Louis, 433 Seventh av
 Washington, Fred. H. 1828 Park av
 Watts, R. B. & Co. 1748 Park av
 Webster, Geo. G. 432 Fourth av
 Weil, Morris, 71 Clinton
 Weiss, Henry, 753 Ninth av
 Wendel, Frederick A. 985 Third av
 Wendling, Henry, 17 Delancy
 Westberg, James O. & Co. 103 Beekman
 Westerfield, James W. 478 Sixth av
 Westman Furnace Co. 31 Broad
 White, Hngh, 113 Monroe
 Whitley, James H. 9 Murray
 Wick, John, 605 Eighth av
 Williams, Hngh H. 2453 Eighth av
 Woehrle & Heuer, 129 Division
 Wolf, John M. 289 Pearl

STOVE AND TINWARE DEALERS.

Abbott's, M. Sons, 137 Eighth av
 Abraham, Jacob, 987 Second av

Alexander, Louis (tinware), 49 Forsyth
 Alexander, Marcus, 132 Delancy
 Anderson, Fred'k, 2367 First av
 Andrews, P. H. 2305 Eighth av
 Angarde, Henry, 340 E. Eleventh
 Barstow Stove Co. 228 and 230 Water
 Barth, Leopold, 87 First av
 Baumann, Charles, 291 Seventh
 Beck, Geo. H. 1515 First av
 Beers, W. N. 2269 Third av
 Block, Israel, 32 Ludlow
 Block, Louis, 92 Bayard
 Blumberg, Isaac, 348 Madison
 Blumenthal, S. & Co. 573 Eighth av
 Boland, D. 273 Hudson
 Bolton, Alex. G. 1673 Broadway
 Born's, F. A. Sons, 359 Greenwich
 Bowers, F. M. & Co. 165 Chambers
 Bowsky, L. 843 Third av
 Boyle, R. & Sons, 535 Eighth av
 Bramball, Deane & Co. 264 and 266 Water
 Briggs, E. A. 2339 Eighth av
 Briggs, R. A. 39 South
 Brininger, Wm. F. 672 Eighth av
 Brooks, E. H. 64 Reade
 Buci, Peter, 183 Seventh
 Butler, John Q. A. (wholesale stoves), 262 Water
 Cassin, James, 6 Spring
 Century Gas Stove and Furnace Co. The (gas stoves), 42d c Lexington av
 Chapman, Chas. H. 234 Eighth av
 Clarke, Wm. 735 Tremont av
 Clayton, H. & Co. 7 Murray
 Cochran, David E. 328 Spring
 Cohen, Gabriel, 10 Elizabeth
 Cohen, Wolf, 8 Bayard
 Colby, E. B. & Co. 237 Water
 Collyer, John, 325 Fourth av
 Conant, E. K. (gas), 9 W. 14th
 Connelly, James H. 534 Sixth av
 Coot, John, 15 Seventh av
 Cordley & Hayes, 173 Duane
 Cort, Joshua H. 117 Beekman
 Creevy, Thomas, 522 Grand
 Cumming, Wm. jr. 658 Tenth
 Daly, James, 907 Sixth av
 Davega, S. B. & Co. 497 Third av
 Decker, M. Second av. and 11th
 Deegnan, E. J. 1885 Fordham av
 Delinsky, Herman, 10 Hester
 Dembitz, Adolph, 202 Rivington
 Detlefs, August, 265 E. 10th
 Dexheimer, Henry, 2306 Eighth av
 Dexheimer, Matthew, 2478 Eighth av
 Dickenson, P. F. 1516 Tenth av
 Dode, D. jr. 549 Third av
 Dodge, Warren W. 1517 Third av
 Dooley, M. 399 Eighth av
 Dour, J. F. 161 W. Broadway
 Downs, John, 108 W. 42d
 Dreisacker & Co. 2071 Third av
 Drew, B. J. 163 South
 Eberhardt, M. & Son, 1464 First av
 Engel, Henry, 137 E. Houston
 Eppelsheimer & Co. 164 Bleecker
 Eppinger, William & Son, 3611 Third av
 Euler, Henry, 83 Fourth av
 Feld, George A. 162 E. 129th
 Fell & Vanness, 412 and 414 Second av
 Fibrer, Nathan, 53 Attorney
 Flaccus, F. & Son, 102 First av

Frank & Bro. 97 Sixth av
 Franklin Stoves, 434 Canal
 Fricke, Adolph, 47 First av
 Fritz & Hafner, St. Nicholas av. n W. 140th
 Froelich, A. estate of, 291 Pearl
 Fuchslocher, Louis, 107 Stanton
 Gallagher, John, 316 Spring
 Ganz, Henry, 7 Ave. C.
 Gast, Louis, 603 Fifth
 Gennerich, Henry, 201 Hester
 Goldblatt, L. 783 Eighth av
 Goldsmith & Loewenberg, 5 Beekman
 Goldstein, Jacob, 7 Ludlow
 Gordon, Bernard (tinware), 12 Hester
 Gordon, F. B. & Bro. 63 E. 126th
 Gorton, James, 1545 Third av
 Graham, D. S. 2136 Eighth av
 Gray, Wm. H. 185 E. 123d
 Groszwirth, Ludwig, 138 Pitt
 Grun, Peter, 645 E. 11th
 Gumbiner, Israel, 57 Bayard
 Haas, Valentiue, 31 Ave. C.
 Hagan, Thomas, 868 Eighth av
 Hagendorf, Gotthard, 667 Eighth av
 Haight, Jas. 10 Forsyth
 Hanover, Henry, 364 Tenth av. and 532 Ninth av
 Hanover, S. J. 716 Ninth av
 Hansman, W. A. (stoves), 31 Ave. C.
 Harder, A. L. 316 Hudson
 Hatch & Co. 495 Greenwich
 Hein, Frank, 95 Forsyth
 Hein, Chas. 506 Fifth
 Hembury, James, 25 Coenties sl
 Herche, A. W. 325 W. 28th
 Herche, Fred'k, 316 E. 39th
 Herriot, Wm. C. Kingsbridge
 Herrlich, J. 144 Stanton
 Herrmann, George, 79 Chrystie
 Hetzel, C. F. jr. (gas stoves), 242 Sixth av
 Hicinbotham, Wm. 1924 Park av
 Hindley, Thos. & Son, 819 Sixth av
 Hoetzel, M. 715 Courtland av
 Hopkins, P. A. 876 Sixth av
 Hyde, John, 549 W. 57th
 Hyland, Thomas, 152 E. 41st
 Israel, M. 141 Ridge
 Izen & Son, 593 Eighth av
 Jack, A. 299 Tenth av
 Jackson, A. E. 2437 Eighth av
 Jacobson, Simon, 91 Bayard
 Jahn, Andrew, 96 W. Houston
 Janes & Kirtland, 232 Water
 Kalbert, A. 172 Essex
 Kallman, L. 374 Grand
 Kallman, M. 1360 Third av
 Kaminsky, Paul, 96 Bayard
 Kann, M. 229 Second
 Keavey, Michael, 339 Hudson
 Kedian & Bro. 248 Third av
 Keeley, M. E. 478 Sixth av
 Kempner, H. 323 E. Houston
 Kennedy Bros. 417 Willis av
 Keyes, Thomas, Boulevard n W. 74th
 Keyser, John H. 115 Beekman
 Klein, S. 858 Second av
 Klenert, Jacob, 364 Grand
 Klesius, M. 52 New Bowery
 Knopp, Fred. J. 307 E. 14th
 Koch, Franz, 67 Orchard
 Kraft, Chas. 11. 18 Cliff
 Kugelmann & Klein, 1585 First av

Kuhn, William, Tenth av. n 158th
 Lahm, C. 446 Ninth av
 Lamb, W. J. 32 Columbia
 Lane, Ira G. 207 E. 64th
 Laubheimer, Samuel, 165 Ave. B
 Lederer, Charles, 40 Bond
 Leschinsky, Simon, 217 Division
 Levin, S. 78 Bayard
 Levy, Abraham, 132 E. Broadway
 Leyrer, L. G. 2094 Third av
 Linton, Robert, 28 South
 Livingston, W. 328 Bleecker
 Lovell, H. S. 34 Carmine
 Lucas, John, 1390 Tenth av
 Lurch, Edward, 1992 W. Farnis road
 Lyon, James G. 248 Water
 Magee Furnace Co, 262 Water
 Maguire, A. 4 Stuyvesant
 Maher, John J. 368 W. 18th
 Mann, M. 64 Hester
 Marks, Maurice, 115 Bowery
 Markthaler, Edward, 1385 Ninth av
 Mason, John F. 631 Courtland av
 Mathews, P. E. 570 Tenth av
 McCarron, John, 915 Sixth av
 McDonough, John, 255 Spring
 McGarity, Robert, 1075 Third av
 McGowan, P. & Son, 204 E. 81st
 McGregor Furnace Co. 115 Beekman
 McNalty, Edward, 209 E. 42d
 McTague, Patrick, 108 Bayard
 Monsees, Herman W. 59 Bowery
 Moritz, M. 1091 Second av
 Morris, A. & V. 66 Hester
 Morris, Max, 432 Seventh av
 Morrison, Richard H. 1235 Third av
 Mull, W. B. & Co. 617½ Tenth av
 Munsell, Eugene & Co. 218 Water
 Nadel, D. 530 E. 6th
 Nelmyra, Hyman, 83 Norfolk
 Newman, James, 260 Bowery
 Newman, William, 513 Tenth av
 New York Gas Stove Co. (gas stoves), 242 Sixth av
 Odell, W. H. 2358 Eighth av
 Packard Sea King Caboose Co. (stove and cabooses), 39 South
 Parke, John, 344 Sixth av
 Pasco & Palmer, 1293 Broadway
 Peppler, George, 648 Tenth av
 Petrie, H. A. 252 Bowery
 Pinkert, P. 250 Division
 Plate, John, 13 Ave. D
 Ploek, Bernhard, 97 Delancy
 Polatschek, L. 773 Ninth av
 Politsch, C. 342 W. 38th
 Poppe, Henry, 402 W. 31st
 Powers, Edward, 955 First av
 Preater, James H. 88 Park pl
 Rahm, M. 223 Second
 Reilly, Christopher, 322 Eighth av
 Reincke, F. G. (tinware), 68 Forsyth
 Reinshagen, John, 79 Allen
 Reubel, George, 708 Third av. and 189 First
 Richardson & Boynton Co. 232-234 Water
 Robinson, Thos. 204 First av
 Rockwell & Co. 2480 Third av
 Rosenstock, F. 2233 Second av
 Rubenstein, Selig (tinware), 61 Ridge
 Rutledge, Chas. 328 Eighth av
 Salet, Mones, 62 Bayard
 Sander, Adam, 464 Second av

Schmidt, Henry & Son, 409 Broome
 Scholz, Carl, 1988 Third av
 Schramm, M. W. 1319 Third av
 Schulz, G. 301 Bowery
 Seib, N. 472 Tenth av
 Seidel & Galvin, 470 Hudson
 Seyffart & Wenz, 2393 Second av
 Shapiro, Harris, 69 Bayard
 Shea, Jas. 328 E. 31st
 Shepperd, F. 686 Kingsbridge rd
 Shepperd, R. N. 20-28 Boston rd
 Sheridan, M. J. 2171 Third av
 Siggins, Wm. 105 W. 24th
 Smith, Alfred, 239 W. 29th
 Smith, D. C. 105 Beekman
 Smith, Jas. 25 E. 12th
 Smrkovsky, Fr. 1132 First av
 Southard, Robertson & Co. 257 Water
 Starrett, George, 229 Water
 Steigelmann, J. 17 Sprung and 635 Second av
 Steinke, August, 826 Elton av
 Stern, Adolph, 98 Willett
 Stoffel, A. 156 E. 35th
 Stolz, Francis, 2966 Third av
 Strachan, R. W. 355 Eighth av
 Tamor, Mendel, 38 Ludlow
 Teasdale, George E. E. 189th n Kingsbridge rd
 Teets, A. & Co. 605 Eighth av
 Teets, David, Son, 507 Eighth av
 Thatcher Furnace Co. 33 Peck st
 Thatcher, Isaac N. 254 Water
 Thatcher, James, 61 Centre
 Thomas National Stove Co. The, 244 Water
 Thwaites, Geo. & Co. 77 Front
 Tillack, Herman, 100 Centre
 Tompkins, James, 2543 Third av
 Trillich, Henry, 103 Ave. D
 Unckrich, Wm. H. 361 Third av
 Unger, F. J. 85 Ave. A
 Union Stove Works, The, 70 Beekman and 66-68 Gold
 Unsold, G. J. 604 Ninth av
 Utter, Sam. S. 113 Beekman
 Valentine, Geo. F. M. 227 Greene
 Vanvleck, H. B. 83 Fulton
 Vogel, Edward W. 100 W. 28th
 Walter, John E. 1803 Third av
 Waring & Stantial, 1390 Third av
 Weis, Martin, 349 Ninth av
 Weiss, Henry, 751 Ninth av
 Weiss, Marcus, 163 Eighth av
 Welch, Bridget, 439 Washington Market
 Wenderoth, O. H. 435 Canal
 Wendling, H. 17 Delancy
 Werber, Frank, 252 Madison
 Werner, R. F. 1555 Second av
 Weste, John, 66 First av
 Westerfield, J. W. 478 Sixth av
 White, Hugh, 112 Monroe
 White, Wm. F. 563 Hudson
 Whitley, J. H. 9 Murray
 Windolph, John, W. 129th and B'way
 Wisel, A. & Co. 26 Cliff
 Woehrle & Heuer, 129 Division
 Wolff, Chas. 3 Rector

STOVE REPAIRS.

Bersinsky, Max, 59 Forsyth
 Feld, Geo. A. 162 E. 129th

Street Sweeping Machines.—Suction Hose, Rubber.—Surveying Instruments.—
Supplies, Painters'.

Froelich, Andrew (est. of), 289 Pearl

Est. of **A. FROELICH**,
Manufacturers of all Kinds of

REPAIRS FOR STOVES, RANGES & HEATERS

Job Casting a Specialty.

289 PEARL ST., Near Beekman, New York.
Branch Store, 41-45 Walworth St.; Foundry, 42-46 Sand-
ford St., Brooklyn, N. Y. JOHN M. WOLF, Manager.

Goebel, Geo. A. 238 Second
Grenstach, S. 173 Madison
Guinand & Son, 8 Peck st
Herche, Albert W. 325 W. 38th
John, Andrew, 96 W. Houston
Marcy Stove Repair Co. 63 Beekman
Stove Mfrs' Repair Ass'n, 233 Water

STOVE MANUFACTURERS'

REPAIR ASSOCIATION,

Stove Repairs and Supplies.

233 & 235 WATER ST., NEW YORK.

W. B. BETTS, Manager.

Swett & Mergel, 99 Beekman
Walker, Thomas, 829 Ninth av

STREET LAMPS.

Aikman, S. M. & Co. 261 Pearl
Bartlett Street Lamp Mfg. Co. 40-42 College pl
Dietz, R. E. Co. 60 Laight
Excelsior Lantern Co. 192 Water
Fiske, J. W. (dealer), 39 Park pl
Gleason, E. P. Mfg. Co. 20 W. Houston
Helvig, H. A. J. 27 South
Lawrence, J. M. 194 Water
Miner, Jacob G. 823 Eagle av
N. Y. & N. J. Globe Gas Light Co. 115 B'way
United States Lighting & Ventilating Co. 24
W. 4th

STREET SWEEPING MACHINES.

Chapman & O'Neill Mfg. Co. 508 E. 19th
Howard Foundry & Machine Works, 114 Lib-
erty (see add p. 19)

SUCTION HOSE, RUBBER.

Ballard, Stephen, Rubber Co. 123 Chambers
Boston Belting Co. 100 Chambers
Eureka Fire Hose Co. 13 Barclay
Fabric Fire Hose Co. 13 Park row
Greene, Tweed & Co. 83 Chambers (see add p.
53)
Guibert, John C. N. 115 Broadway

Imperial Rubber Co. 134 Liberty, George E.
Austin, mgr

Leonard & McCoy, 118 Liberty
Mineralized Rubber Co. 18 Cliff
National Hose Coupling Co. 10 Barclay
N. Y. Belting & Packing Co. 15 Park row (see
add front inside cover)

Reddaway, F. & Co. 52 New
Revere Rubber Co. 64 Reade
Roberts, Geo. I. & Bros. 471-473 Fourth av (see
add pp. 62, 63)

U. S. Supply Co. Ltd. 51 John
Wood, E. L. Steam Hose & Fabric Mfg. Co.
Ltd. 50 E. 13th

SURVEYING INSTRU- MENTS.

Brandis Mfg. Co. 55 Fulton
Gregg, Wm. T. 25 John
Keuffel & Esser Co. 127 Fulton and 42 Ann
Stackpole & Bro. 41 Fulton

SUPPLIES, PAINTERS'.

Abraham Bros. 469 Sixth av
Blake, R. J. 1552 Columbus av
Bristow, Geo. 2305 Eighth av
Corridon & Meyer, 89 Fourth av
Geraty, J. W. 1937 Third av
Harscher, A. 150 Ave. C
Metzner, E. 1039 Second av
Minskowski, R. 219 Broome
Muller, Louis. 1559 Third av
Reid Bros. 1472 Third av
Sackman & Rock, 126 Rivington
Schneider, I. 1689 Park av

I. SCHNIEDER, PAINTERS' SUPPLY STORE,

No. 1689 PARK AVENUE,

Between 118th and 119th Streets, NEW YORK.

House, Sign and Fresco Painting, Plastering & Glazing.
Paper Hanging and Kalsomining. All Orders Promptly
Attended to.

Swartz, H. 197 Amsterdam av

H. SWARTZ, PAINTERS' SUPPLIES STORE,

House, Fresco, Sign and Wagon Painter.

Graining, Paper Hanging, Plastering, &c. Window and
Plate Glass.

No. 197 AMSTERDAM AVE., NEW YORK.

Wiener, Samuel, 572 Ninth av
Wirth, Henry, 145 Delancy

SURVEYORS, CITY.

Amerman & Ford, 8 James
Blake, Richard L. 467 Lexington
Butt, John T. 11 Pine

Byrne, Garret J. 2254 Third av

CARRET J. BYRNE,
Civil Engineer & City Surveyor,
2254 THIRD AVENUE,
NEW YORK.

Telephone, 424 Harlem.

Chamberlain, James H. 19 Whitehall
Cox, Matthew, 250 W. 125th

MATTHEW COX,
CITY SURVEYOR,
No. 250 WEST 125th STREET,
NEW YORK.

Harlem and Washington Heights Surveying a Specialty.

Cunningham, John, 25 Chambers
Doerflinger & Lacy, 2 Bridge
Ewen, Austin D. 229 Broadway
Ewen, Hamilton, 79 Cedar
Georgi, Otto H. 3211 Third av
Gore & Purcell, 1589 Third av
Guion, Barnard R. 3154 Third av
Haight, Stephen S. 1986 W. Farms rd
Hartmann, Andrew P. 20 Liberty
Haswell & Stout, 40 Broadway
Hillman, George C. 816 Forest av
Holden, E. H. 9 Chambers

E. H. HOLDEN,
Civil Engineer and City Surveyor,
No. 9 CHAMBERS STREET,
NEW YORK CITY.

Residence, 1074 Boston Ave.

Jackson, Chas. E. 15 Cortlandt
Johnson, E. D. 58 Liberty
Lynch, C. J. L. 59 Liberty
Maclay & Davies, 120 Broadway
Mapes, Chas. A. 2225 Third av
Meyer, Chas. A. & Son, 215 Bowery
Murgatroyd, Henry E. 2681 Third av
Preuss, Wm. 307 E. 10th
Purell, N. S. 67 E. 112th
Pyne, Jas. A. 27 Chambers
Reinert, Fred. 280 Broadway
Risse, Louis A. 290 B'way, 2629 Third av
Rudolphy, Emil W. 703 Lexington av
Rudolphy, Gustave O. 703 Lexington av
Rudolphy, Jacob, 703 Lexington av
Serrell, James E. 306 W. 51st
Slator, T. & J. 3 Park pl. and 403 E. 114th
Smith, C. W. 31 Broadway
Smith, J. McIntyre, 97 Nassau
Smith, Joseph L. T. 1013 Third av
Smith, Theophilus G. 111 Broadway
Spindler, Herman H. 2629 Third av
Starck, Edward L. 61 Third av
Thompson, Frederiek P. Pier A, N. R
Thompson, H'y. C. Olin av. n Bronx R
Towle, Frank E. 25 Chambers
Van Horn, John G. 15 Cortlandt

Waters, Robert L. 9 Chambers

ROBERT L. WATERS,
CITY SURVEYOR,
9 CHAMBERS STREET,
Res., 45 West 128th St., NEW YORK CITY.
MEMBER OF REAL ESTATE EXCHANGE.

Whceler, George A. 113 E. 38th
Widmayer, Wm. F. 136 Liberty

**TABLETS, MEMORIALS
AND STATUARY,
BRONZE.**

Bonnard, Henry, Bronze Co. 420 W. 16th
Lamb, J. & R. 59 Carmine
Power, Maurice J. Office, 237 Broadway,
Works, 218 E. 25th
Prince & Kinkel Iron Works, 729-731 First
av (see add p. 51)
Spadone & Cabaret, 675 Hudson
Williams, John, 544-546 W. 27th (see add p. 36)

**TABLETS, MEMORIALS,
MONUMENTS AND
STATUARY, MARBLE
AND GRANITE.**

Adler, Samuel, 213 E. 49th
Bailey, G. L. 38 Park row
Booth Bros. and Hurricane Isle Granite Co.
60 Bank
Browne, McAllister & Co. 431-439 W. 14th

Established 1850.

BROWNE, McALLISTER & CO.
Steam Granite Works,

431-439 W. 14th St., bet. 9th & 10th Aves., N. Y.

Quarries at Long Island, and Round Pond, Maine.
Monumental Work and Statuary a Specialty. Building
Work in Every Variety. Telephone Call, 21st St. 463.

See Advertisement, page 126.

Canfield, Chas. W. 1321 Broadway
Cassidy, B. W. 635 W. 50th
Caterson, Edward, Woodlawn
Caterson, Robert, Woodlawn
Catherwood, Robert B. 40 Broadway
Clark, Wm. C. Woodlawn
Conn. River Granite Co. 129 Broad
Diegan, John G. 6 Grand Circle
Dimond, John, 218 W. 42d
Dolan, James F. First av & 101st
Draddy, M. J. Stewart bldg. room 227
Faleoni & Co. Tremont and Fordham
Felix, P. W. 925 Sixth av

Fisher, Robert C. & Co. 97-103 E. Houston

ROBERT C. FISHER & CO.,

Successors to FISHER & BIRD,

Marble & Granite Works

97, 99, 101 & 103 East Houston Street,

(Established 1830.) NEW YORK.
Artistic Chimney Pieces. Counters, Floor Tiling, Fountains,
etc., and Monumental Work of Every Description. Im-
porters of Foreign Marbles and Granites.

Francis & Albertson, 67 W. 23d

Frank, Simon L. 38 Park row

French, H. Q. 50 Broadway

Garity Bros. 18 W. 14th

Gouldsbury, R. & Co. 318 E. 23d

Guidet, Chas. 237 Broadway

Hanna, John, 6 E. 42d

Howser, Horace, 84 Eleventh av

Hummel, James H. 153 Fulton

Klaber, A. 238 E. 57th

Knowles Bros. 229 E. 22d

Kubin, Joseph, jr. Elton av & 154th

Lake Champlain Granite Co. 15 Maiden la

Lazzari & Barton, Woodlawn

Logan, Robert, 99 Nassau

Macray & Bro. 558 W. 43d (see add p. 126)

McGrath & Kidney, East End av & 81st

McKenna, John, 133 W. 62d

Mower, E. & Co. 82 Nassau

Nelson, W. H. 126 Liberty

New England Granite Works, 44-46 B'way

New England Monument Co. 1321 Broadway

Nicholas & Shipway, 105-111 E. 128th

Orr Bros. Av. A & 62d

Passaic Quarry Co. 38 Park row (see add opp.
p. 201)

Petersburg Granite Quarry Co. 38 Wall

Pirsson & Renwick, 19 Park pl

Randall, Andrew, 53 Broadway

Randall, John L. 53 Broadway

Rehfeld, Jacob, 245 Broome

Richmond Granite Co. 141 Nassau

Roberts, W. J. 45 Broadway

Robinson, Wm. 1146 Broadway

St. John, M. A. 265 Broadway

Setz & Bianchi, Woodlawn

Sherwood, S. Clinton, 10 W. 23d

S. Clinton Sherwood,

Cemetery Memorials in Granite

Monuments, Mausoleums

Statuary

10 West 23d St., Cor. 5th Ave., N.Y. City.

Sonius, P. C. & Co. 63 W. 44th

Tayntor, C. E. & Co. 239 Broadway

Theis & Janssen, 413-415 E. 25th

THEIS & JANSSEN,

ECOLESIASTICAL & ARCHITECTURAL

Marble Works,

Carvers in Marble and Stone,

413 & 415 East 25th St., New York

See Advertisement, page 127.

Totoket Granite Co. World bldg.

Townsend, Wm. Co. 520 W. 20th

Union Granite Co. 168 Pearl

Voorhis, Jacob, 403 E. 42d

Walling, J. H. 154 Nassau

Wauek, Thomas, 596 Grand

Wetzler, Adolph, 127 Sheriff

White Granite Co. 547 W. 17th (see add p.
125)

Willis & Dyer, 92 First av

Woodward, Chas. F. 247 Broadway

TACKLE BLOCK MFRS.

Boston & Lockport Block Co. Henry B.

Newhall Co. agents, 105 Chambers

Ferguson, Wm. B. & Son, 236 South

Hicks, Chas. N. 175 Lewis

Keene, John, 350 West

Langworthy & Brown, 38 South

McMillan's, W. H. Son, 113 South

Peck, Stow & Wilcox Co. 27 Chambers

Simpson, Wm. & Co. 207 Coenties st

Thompson, Joseph, 164 Maiden la

Topping & Fox (mfrs.' agts.) 96 Chambers

Union Hardware Co. 95 Chambers

Weir, Daniel J. 7 Bedford

Wilcox, Crittenden & Co. 33 South

TACKS, BRADS, ETC., MFRS.

American Tack Co. 116 Chambers

Atlas Tack Corporation, 116 Chambers

Boston Button Co. 346 Canal

Chess, Cook & Co. 105 Chambers

Double Pointed Tack Co. 108 Chambers

Dunbar, Hobart & Co. 39 Warren

Field, A. & Sons, 88 Chambers

Murray, Robert, 24 Duane

Salem Wire Nail Co. (wire brads) 261 Broad-
way

Shelton Co. 298 Broadway

Stanley Works, 79 Chambers

Wallace & Sons (copper) 29 Chambers

TANKS, IRON, ALL KINDS AND SHAPES.

Blessing, George A. & Co. 290 Pearl (see add
p. 110)

Booth, Samuel, 545 W. 35th

Collins, Wm. & Son. ft. W. 21st

Coreoran, Andrew J. 76 John (see add p. 79)

Deeley, Robert & Co. 507 W. 32d

Hawkins, R. F. Iron Works, 91 Liberty

Helvig, H. A. J. 27 South

Jarboes Sheet Iron & Metal Works, 519 E.
19th

Phoenix Iron Co. 10 W. 23d

Tanks, Wood, White Pine, &c.] 576 [Telegraph & Telephone Supplies.

Tanks, Wood, All Kinds and Shapes.—Tape Measures.—Tapestry Paintings.

Pollock, Alex. 15 Cortlandt
Prince & Kinkel Iron Works, 729-731 First
av (see add p. 51)
Trageser, John, Steam Copper Works, 447-
457 W. 26th (see add p. 111)

TANKS, WOOD, WHITE PINE AND CEDAR.

Brennan, James, Driggs av & N. 11th, Brook-
lyn

BRENNAN, COOPER and TANK BUILDER

Cedar Vats, Tanks for Breweries, &c.

No. 20 Burling Slip, NEW YORK.

458-468 Driggs Ave., cor. North 11th St., Brooklyn, N. Y.
Telephone, 83 Greenpoint.

See Advertisement, page 78.

Corcoran, Andrew J. 76 John (see add p. 79)
N. E. Steam Cooperage Co. 19 Whitehall
Schwarzwalder, J. & Sons, 657 W. 51st
Standard Stave & Cooperage Co. 19 Whitehall

Established 1823. Incorporated 1891.

Standard Stave & Cooperage Co.,

Exporters of and Dealers in

STAVES & COOPERAGE STOCK,

Manufacturers of Tanks, Dye Tubs, Vats, Hogsheds,
Barrels and Kegs.

19 Whitehall Street, 160 State Street,
NEW YORK. BOSTON.

See Advertisement, page 77.

Williams Mfg. Co. 16 Murray

TANKS, WOOD, ALL KINDS AND SHAPES.

Blessing, George A. & Co. 290 Pearl (see add
p. 110)

Brennan, James, Driggs av and N. 11th,
Brooklyn (see add p. 78)

Corcoran, Andrew J. 76 John

ANDREW J. CORCORAN,

Manufacturer of

WHITE PINE TANKS

FOR ALL PURPOSES.

No. 76 JOHN STREET,
NEW YORK.

See Advertisement, page 79.

Pollock, Alexander, 15 Cortlandt
Schwarzwalder, J. Sons, 629 W. 51st
Standard Stave and Cooperage Co. 19 White-
hall

Established 1823.

Incorporated 1891.

Standard Stave & Cooperage Co.,

Exporters of and Dealers in

STAVES & COOPERAGE STOCK,

Manufacturers of Tanks, Dye Tubs, Vats, Hogsheds,
Barrels and Kegs.

19 Whitehall Street, 160 State Street,
NEW YORK. BOSTON.

See Advertisement, page 77.

Williams Mfg. Co. 16 Murray

TAPE MEASURES.

Church & Sleight, 109 Fulton

Eddy, Geo. M. & Co. (mfrs.) 343-353 Classon
av, Brooklyn

Mellwaine, D. B. (importer) 97 Chambers

Montgomery & Co. (Chesterman's tapes) 105
Fulton

Walbridge, J. H. & Co. 43 Leonard

TAPESTRY PAINTINGS.

Douthitt, J. F. 286 Fifth av

H. D. DOUTHITT,

STAINED GLASS, TAPESTRIES,

286 Fifth Avenue, New York.

Interior Decorating. Painting, Graining, Kalsomining,
Paper Hanging, Frescoing. Designs and Estimates
Furnished on Application. The principle upon which our
Estimates are based is—"The Lowest Price Consistent
with Best Work." Inferior Work we will not Produce at
any Price.

See Advertisement, page 91.

Glaenger, George A. & Co. 33 E. 20th

Koster, C. H. 5 Park pl

TELEGRAPH AND TELE- PHONE SUPPLIES.

Aerial, Conduit Co. 3 Broad

American Telephone Booth Co. 18 Cortlandt

American Type Telegraph Co. 670 Hudson

Bunnell, J. H. & Co. 76 Cortlandt

Butler Hard Rubber Co. 33 Mercer

Church & Sleight, 109 Fulton

Felt & Amory, 258 W. 29th

Frasse & Co. 90-94 Park row

Greeley, E. S. & Co. 82 Fulton

Habirshaw, W. M. 315 Madison av

India Rubber Comb Co. 11 Mercer

India Rubber & Gutta Percha Insulating Co.
315 Madison av

International Okonite Co. (Ltd.) 13 Park row

Jessup, F. W. Co. 171 Broadway

Lieb & Splitdorf, 27 Vandewater

Merehants' Construction Co. 54 Broad

Standard Underground Cable Co. 18 Times.
bldg.

Telegraphic and Telephone Wire, Okonite.—Telephone Companies.—Telegraphic Instrument Manufacturers.

TELEGRAPH AND TELEPHONE WIRES.

Alluminum Brass & Bronze Co. The, Stewart bldg. 53 Chambers
 American Electrical Works, 10 Cortlandt
 Ansonia Brass & Copper Co. 19 and 21 Cliff
 Benedict & Burnham Mfg. Co. 13 Murray
 Bishop Gutta Percha Co. 422 E. 25th
 Bridgeport Brass Co. (copper), 19 Murray
 Cooper, Hewitt & Co. 17 Burling sl
 Day, A. G. ("Kerite" insulated), 16 Dey
 Holmes, Booth & Haydens, 25 Park pl and 22 Murray
 India Rubber and Gutta Percha Insulating Co. 315 Madison av
 International Okonite Co. (insulating wires and cables), 13 Park row (see add opp. Key to Ward Atlas)
 Law Telephone Co. 85 John
 N. Y. & N. J. Telephone Co. 16 Cortlandt
 Roebling's, John A. Sons Co. 117 Liberty
 Safety Insulated Wire and Cable Co. The, 234 W. 29th
 Seoville Mfg. Co. 423 Broome
 Standard Underground Cable Co. (cables), 18 Cortlandt
 The Metropolitan Telephone & Telegraph Co. 16-18 Cortlandt
 Trenton Iron Co. 17 Burling sl
 Wallace & Sons, 29 Chambers
 Waterbury Brass Co. 296 Broadway
 Western Electric Co. 125 to 131 Greenwich

TELEGRAPHIC AND TELEPHONE WIRE, OKONITE.

International Okonite Co. Ltd. 13 Park row

The INTERNATIONAL OKONITE CO. LIMITED.,

Largest Manufacturers in the United States and Europe of

INSULATED WIRE and CABLES,

13 Park Row, New York.

See Advertisement, opp. key to Ward Atlas.

TELEGRAPH COMPANIES.

American Dist. 8 Dey
 American Rapid, 195 Broadway
 American Telegraph & Cable Co. 195 Broadway
 Anglo-American Telegraph Co. Ltd. 8 Broad
 Central & So. American, 39 Wall
 Commercial Cable Co. 3 and 10 Broad
 Compagnie Francaise du Telegraphie de Paris a New York, 34 Broad
 Dexter Stock Indicator & Telegraph Co. 14 Dey

Direct U. S. Cable Co. Ltd. 40 Broadway
 District Telegraph & Burglar Alarm Co. of Harlem, 104 W. 125th
 Empire and Bay States Telegraph Co. 2 Nassau
 Essex Printing, 1 Broadway
 Gold & Stock, 195 Broadway
 Holmes Electric Protective Co. 518 Broadway
 Independent District, 9 New
 International Ocean, 195 Broadway
 International Telegraph Co. 61 Park row
 Mexican, 39 Wall
 Mott Visual Telegraph Co. 136 Liberty
 N. Y. Mutual, 195 Broadway
 N. Y. Quotation Co. 18 Broadway
 N. Y. & L. I. 51 William
 Northwestern Telegraph Co. 195 Broadway
 Pedro Segundo Am. Telegraph & Cable Co. 44 Broadway
 Postal Telegraph Cable Co. 1 Broadway
 Private Line Printing Co. 51 Cedar
 Renters Telegram Co. Ltd. 207 Broadway
 Sandy Hook, Quarantine & City Island, 14 Beaver
 Stock Quotation, 51 Cedar
 Western Union, 195 Broadway
 Writing, 57 Murray

TELEGRAPHIC INSTRUMENT MFRS.

Ahlstrom, Oscar G. 162 William
 Bunnell, J. H. & Co. 76 Cortlandt
 Electric Construction and Supply Co. 18 Cortlandt
 Empire City Electric Co. The, 779 Broadway
 Greeley, E. S. & Co. 5 and 7 Dey
 Hoernach, Paul, 193 Worth
 Merchants' Mfg. & Construction Co. 54 Broad
 Pearce, F. 79 John
 Thau, Henry, 130 Fulton
 Western Electric Co. 125 to 131 Greenwich
 Wirsching, A. 28 Centre

TELEPHONE COMPANIES.

American Nautical Telephone Co. 13 Park row
 American Private, 64 Broadway
 American Speaking, 195 Broadway
 American Telephone & Telegraph Co. 18 Cortlandt
 Best Short Line Telephone Co. 167 Chambers
 Drawbaugh Telephone Syndicate, 2 Wall
 Echo Telephone Co. of the U. S. 15 Cortlandt
 International Bell Telephone Co. Ltd. 32 Nassau
 Metropolitan Telephone & Telegraph Co. 18 Cortlandt
 Mexican Central Telegraph & Telephone Co. 7 Nassau
 N. E. Telephone & Telegraph Co. 18 Cortlandt
 N. Y. & N. J. 18 Cortlandt
 N. Y. & Pa. Telephone and Telegraph Co. 18 Cortlandt
 Pulson, 136 Liberty

Telephone Materials.]

578 [Terra Cotta Arches, Roofs, &c.

Telephone Patent Folding Booth.—Ten Pin Alley Builders, Balls and Pins.—Tent Manufacturers.—Terra Cotta, Architectural.

Shaver Corporation, 1 Broadway
Southern Bell Telephone & Telegraph Co. 18
Cortlandt
Sunderland, 4 W. 14th
Tropical American Telephone Co. Ltd. 95
Broad
Union, 64 Broadway
West Coast, 18 Cortlandt

TELEPHONE MATERIALS.

American Electrical Works, 10 Cortlandt
Bogart, A. L. (mfr.), 22 Union sq
Bunnell, J. H. & Co. 76 Cortlandt
Empire City Electric Co. The, 7 Dey
Greeley, E. S. & Co. The, 5 and 7 Dey
Law Telephone Co. 85 John
Montgomery & Co. 105 Fulton
Pearce, F. 79 John
Thau, Henry, 130 Fulton
Western Electric Co. 125 to 131 Greenwich

TELEPHONE PATENT FOLDING BOOTH.

Telephone Patent Folding Booth Co. Telephone
bldg, 18 Cortlandt

TEN PIN ALLEY BUILD- ERS, BALLS AND PINS.

Grote, F. & Co. 114 E. 14th

TENT MFRS.

Harwood & Son, 58 W. Broadway
McHugh, John F. 1263 Broadway
Marjin, Thomas, 326 Canal
Skelton, Frederick, 1325 Broadway (see add
next to last page)

TERRA COTTA, ARCHITECTURAL.

Baltimore Terra Cotta Co. I. C. Hendrickson,
agent, 237 Broadway (see add p. 139)
Boston Terra Cotta Co. New York Office,
Times bldg, 41 Park row, J. G. Evatt, Mgr
Mathiasen & Hansen, 202 Broadway

MATHIASSEN & HANSEN,

MANUFACTURERS OF

Architectural Terra Cotta,

No. 202 BROADWAY,

NEW YORK.

See Advertisement, page 133.

Menlo Park Ceramic Works, Jere T. Smith,
prop. office and show rooms, cor. E. 23d and
Madison av (see add p. 131)
New York Architectural Terra Cotta Co. Office
and show rooms, Potter bldg, 38 Park row
Perth Amboy Terra Cotta Co. Office and show
rooms, Guernsey bldg, 160 Broadway, Oswald
Spier, Mgr
Staten Island Terra Cotta Lumber Co. New
York Office, Equitable bldg, 120 Broadway
(see add p. 130)
Stephens, Armstrong & Conkling, 181 B'way

STEPHENS, ARMSTRONG & CONKLING,

MANUFACTURERS OF

Architectural + Terra + Cotta,

181 Broadway, New York.

Works, 46th St. and Girard Ave., at P. R. R. Station,
PHILADELPHIA.

Stewart Ceramic Co. 312 Pearl and ft. W. 18th
& 19th sts

STEWART CERAMIC CO.,

Solid, White Crockery, Stationary Wash Tubs,

SINKS, &c.

No. 312 PEARL STREET,

Corner Peck Slip.

NEW YORK.

See Advertisement, page 4.

The Architectural Terra Cotta Works, Perth
Amboy, N. J. N. Y. Office, Times bldg, 41
Park row, room 108

The Architectural Terra Cotta Works OF PERTH AMBOY, N. J.

Manufacturers of

Architectural Terra Cotta

In all Colors and Sizes.

NEW YORK OFFICE

Times Building, 41 Park Row, Room 108.

Union Terra Cotta Lumber Co. 287 Broadway
Wyandance Brick and Terra Cotta Co. 19 Park
pl, 16 Murray

TERA COTTA ARCHES, ROOFS, AND PARTITIONS.

De Rache, Leonard, W. 70th st. Tenth and
Eleventh avs (see add p. 133)
Eastern Plaster Board Co. 50-52 Broad

Terra Cotta Chimney Tops.

Guastavino Fire Proof Construction Co. ft. W.
57th (see add opp. Part 3, Twelfth Ward)
Isaacs, Gustavus, 21 Bethune
Kretschmer, B. & Sons, 132 Mangin
Lorillard Brick Works Co. 92-94 Liberty
Mathiasen & Hansen, 202 Broadway (see add p.
133)
Maurer, Henry & Son, 420 E. 23d (see add next
to back cover)
Meeker & Carter, 14 E. 23d
New York Architectural Terra Cotta Co. Pot-
ter bldg, 38 Park row
North American Pyrogranite Co. 52 W. 15th
Person, Orrin D. Mohawk bldg, 160 Fifth av
c 21st (see add p. 139)
Perth Amboy Terra Cotta Co. Guernsey bldg,
160 Broadway
Raritan Hollow and Porous Brick Co. 874
Broadway, MacIntyre bldg
Robbins, George B. & Co. Third av and 136th
(see add p. 122)
Schillinger Fire Proof Cement and Asphalt Co.
413 E. 91st
Staten Island Terra Cotta Lumber Co. Equita-
ble bldg, 120 Broadway (see add p. 130)
The Grooved Plaster Slab Mfg. Co. 2 W. 14th
The Manhattan Fire Proofing Co. MacIntyre
bldg, 874 Broadway (see add p. 132)
The Van Fire Proofing Co. Albert Von den
Driesch, 92-94 Liberty (see add opp. back in-
side cover)
Thomas, E. H. 173 Broadway
Tile Fire Proofing Construction Co. Central
bldg, 143 Liberty
Union Terra Cotta Lumber Co. 287 Broadway
Wyandance Brick and Terra Cotta Co. 19 Park
pl and 16 Murray

TERRA COTTA BRICK.

Baltimore Terra Cotta Co. I. C. Hendrickson,
agent, 237 Broadway (see add p. 139)
Boston Terra Cotta Co. New York Office,
Times bldg, 41 Park row, J. G. Evatt, mgr
Eastern Hydraulic Pressed Brick Co. New
York Office, Pulitzer's World bldg, room 87,
F. L. Blake, Representing
Englehardt & Mayland, sole agents Peerless
Brick Co. Philadelphia, Pa. New York Office
Times bldg, 41 Park row, room 108
Kreischer, B. & Sons, 132 Mangin
Maurer, Henry & Son, 420 E. 23d (see add opp.
back inside cover)
Mathiasen & Hansen, 202 Broadway (see add p.
133)
Meeker & Carter, 14 E. 23d
Menlo Park Ceramic Works, Jer. T. Smith,
prop. office and show rooms, cor. E. 23d and
Madison av (see add p. 131)
New York Anderson Pressed Brick Co. offices,
Lincoln bldg, 1-3 Union sq cor. 14th (see add
p. 138)
New York Architectural Terra Cotta Co. office
and show rooms, Potter bldg, 38 Park row
North American Pyrogranite Co. 52 W. 15th
Person, Orrin D. Mohawk bldg, 160 Fifth av c
21st (see add p. 139)
Perth Amboy Terra Cotta Co. office and show
rooms, Guernsey bldg, 160 Broadway, Oswald
Spier, mgr

Raritan Hollow & Porous Brick Co. MacIntyre
bldg, 874 Broadway
Sayre & Fischer Co. Bennett bldg, cor. Nassau
and Fulton (see add p. 139)
Staten Island Terra Cotta Lumber Co. New
York Office, Equitable bldg, 120 Broadway
(see add p. 130)
Stephens, Armstrong & Conkling, 181 B'dway
The Architectural Terra Cotta Works, Perth
Amboy, N. J. New York Office, Times bldg,
41 Park row
Thomas, E. H. 173 Broadway
Union Terra Cotta Lumber Co. 287 Broadway
Weeks, Chas. R. & Bro. Mfrs'. Agts. and Im-
porters, 74 Murray
Wyandance Brick and Terra Cotta Co. 19 Park
pl and 16 Murray

**TERRA COTTA CHIMNEY
TOPS.**

Colman, Chas. H. & Co. 145 Broadway (see add
pp. 136, 137)
Duffy, J. P. & Co. E. 138th cor. Railroad av
Maurer, Henry & Son, 420 E. 23d (see add opp.
back inside cover)
Menlo Park Ceramic Works, Jer. T. Smith,
prop. office and show rooms, cor. E. 23d and
Madison av (see add p. 131)
Ohio Sewer Pipe Co. Chas. H. Colman & Co.
agents, 145 Broadway (see add p. 136)
Otis & Gorsline, 484 E. 138th, E. 146th c Rail-
road av
Person, Orrin D. Mohawk bldg, 160 Fifth av c
21st (see add p. 139)
Robbins, George B. & Co. 136th and Third av
(see add p. 122)
Staten Island Terra Cotta Lumber Co. New
York Offices, Equitable bldg, 120 Broadway
(see add p. 130)
Stephens, Armstrong & Conkling, 181 B'dway
Stewart & Co. Manhattan Pottery and Terra
Cotta Works, 312 Pearl, ft. W. 18th and 19th
(see add p. 4)
U. S. Fire Clay Co. Chas. H. Colman & Co.
agents, 145 Broadway (see add p. 136)

**TERRA COTTA FIRE
PLACES AND MANTELS,
ARTISTIC.**

Baltimore Terra Cotta Co. I. C. Hendrickson,
agent, (see add p. 139)
Boston Terra Cotta Co. New York Office,
Times bldg, 41 Park row, J. G. Evatt, mgr
Eastern Hydraulic Pressed Brick Co. New
York Office, Pulitzer's World bldg, room 87,
F. L. Blake, representing
Englehardt & Mayland, Sole Agents Peerless
Brick Co. Philadelphia, Pa. New York Office
Times bldg, 41 Park row, room 108
New York Architectural Terra Cotta Co. office
and show rooms, Potter bldg, 38 Park row

Terra Cotta Fire Proofing Material.] 580 [Terra Cotta Garden, &c., Vases.

Terra Cotta for Fire Clay Ceilings.

Person, Orrin D. Mohawk bldg, 160 Fifth av c 21st (see add p. 139)
Perth Amboy Terra Cotta Co. office and show rooms, Guernsey bldg, 160 Broadway, Oswald Spier, mgr
Raritan Hollow & Porous Brick Co. MacIntyre bldg, 874 Broadway
Staten Island Terra Cotta Lumber Co. New York Office, Equitable bldg, 120 Broadway (see add p. 130)
Stephens, Armstrong & Conkling, 181 Br'dway
Trautel Bros. 499 Fifth av (see add p. 82)

TERRA COTTA FIRE PROOFING MATERIAL.

Bailey, Thomas, Tenth av and 151st (see add p. 9)
Baltimore Terra Cotta Co. I. C. Hendrickson, sole agent, 237 Broadway (see add p. 139)
Boston Terra Cotta Co. Times bldg, 41 Park row, J. G. Evatt, mgr
Chin, Aug. T. Potter bldg, 38 Park row
Colman, Chas. H. & Co. 145 Broadway (see add pp. 136, 137)
De Rache, Leonard, 250 W. 70th (see add p. 133)
Eastern Plaster Board Co. 50-52 New
Gnastavino Fire Proof Construction Co. ft. W. 57th (see add opp. Part 3, Twelfth Ward)
Isaacs, Gustavus, 24 Bethune
Kreischer, B. & Sons, 132 Mangin
Lorillard Brick Works Co. 92-94 Liberty
Manhattan Fire Brick Works, 633 E. 15th
Maurer, Henry & Son, 420 E. 23d (see add opp. back inside cover)
Meeker & Carter, 14 E. 23d
N. Y. Anderson Pressed Brick Co. Lincoln bldg. 1-3 Union sq c 14th (see add p. 138)
N. Y. Architectral Terra Cotta Co. 38 Park row Potter bldg
North American Pyrogranite Co. 52 W. 15th
Person, Orrin D. Mohawk bldg, 160 Fifth av c 21st (see add p. 139)
Perth Amboy Terra Cotta Co. Guernsey bldg, 160 Broadway, Oswald Spier, mgr
Rader, G. W. & Co. 611 W. 51st
Raritan Hollow & Porous Brick Co. MacIntyre bldg, 874 Broadway
Robbins, Geo. B. & Co. 136th and Third av (see add p. 122)
Schillinger Fire Proof Cement and Asphalt Co. 413 E. 91st
Staten Island Terra Cotta Lumber Co. Equitable bldg, 120 Broadway (see add p. 130)
The Manhattan Fire Proofing Co. MacIntyre bldg, 874 Broadway (see add p. 132)
The Van Fire Procofing Co. Albert Von den Driesch, 92-94 Liberty (see add opp. back inside cover)
Tile Fire Proofing Construction Co. Central bldg, 143 Liberty
Union Terra Cotta Lumber Co. 287 Broadway
Wyandance Brick & Terra Cotta Co. 19 Park pl and 16 Murray

TERRA COTTA FOR FIRE CLAY CEILINGS.

Baltimore Terra Cotta Co. I. C. Hendrickson, Sole Agent, 237 Broadway (see add p. 139)
Boston Terra Cotta Co. Times bldg, 41 Park row, J. G. Evatt, mgr
Colman, Chas. H. & Co. 145 Broadway (see add pp. 136, 137)
De Rache, Leonard, W. 70th st. Tenth and Eleventh avs (see add p. 133)
Eastern Plaster Board Co. 50-52 Broad
Guastavino Fire Proof Construction Co. ft. W. 57th N. River (see add opp. Part 3, Twelfth Ward)
Isaacs, Gustavus, 24 Bethune
Maurer, Henry & Son, 420 E. 23d (see add opp. back inside cover)
Meeker & Carter, 14 E. 23d
New York Architectural Terra Cotta Co. Potter bldg, 38 Park row
Person, Orrin D. Mohawk bldg, 160 Fifth av c 21st (see add p. 139)
Raritan Hollow & Porous Brick Co. MacIntyre bldg, 874 Broadway
Robbins, George B. & Co. 136th and Third av (see add p. 122)
Staten Island Terra Cotta Lumber Co. Equitable bldg, 120 Broadway (see add p. 130)
The Grooved Plaster Slab Mfg. Co. 2 W. 14th
The Manhattan Fire Proofing Co. MacIntyre bldg, 874 Broadway (see add p. 132)
The Schillinger Fire Proof Cement & Asphalt Co. 413 E. 91st
The U. S. Fire Clay Co. Chas. H. Colman & Co. agents, 145 Broadway (see add pp. 136, 137)
The Van Fire Proofing Co. Albert Von den Driesch, 92-94 Liberty (see add opp. back inside cover)
Thomas, E. H. 173 Broadway
Tile Fire Proof Construction Co. Central bldg, 143 Liberty
Union Terra Cotta Lumber Co. 287 Broadway
Wyandance Brick and Terra Cotta Works, 19 Park pl and 16 Murray

TERRA COTTA GARDEN AND HANGING VASES.

Colman, Chas. H. & Co. 145 Broadway (see add pp. 136, 137)
Menlo Park Ceramic Works, Jere T. Smith, prop. office and show rooms, cor. E. 23d and Madison av (see add p. 131)
North American Pyrogranite Co. 52 W. 15th
Robbins, Geo. B. & Co. 136th and Third av (see add p. 122)
Stevens, Armstrong & Conkling, 181 Broadway
Stewart & Co. Manhattan Pottery and Terra Cotta Works, 312 Pearl and ft. W. 18th and 19th (see add p. 4)

Terra Cotta Hollow Blocks.]

581 [Terra Cotta Works, Pottery Mfgs.

Terra Cotta Lumber.—Terra Cotta, Porous, for Roofing.—Terra Cotta Wall Coping.

TERRA COTTA HOLLOW BLOCKS.

Colman, Chas. H. & Co. 145 Broadway (see add pp. 136, 137)
De Rache, Leonard, W. 70th st. Tenth and Eleventh avs (see add p. 133)
Eastern Plaster Board Co. 50-52 New
Guastavino Fire Proof Construction Co. W. 57th and N. River (see add opp. Part 3, Twelfth Ward)
Isaacs, Gustavus, 24 Bethune
Kreischer, B. & Sons, 132 Mangin
Maurer, Henry & Son, 420 E. 23d (see add opp. back inside cover)
Meeker & Carter, 14-E. 23d
Person, Orrin D. Mohawk bldg, 160 Fifth av e 21st (see add p. 139)
Rader, G. W. & Co. 611 W. 51st
Raritan Hollow & Porous Brick Co. MacIntyre bldg, 874 Broadway
Robbins Geo. B. & Co. 136th and Third av (see add p. 122)
Staten Island Terra Cotta Lumber Co. Equitable bldg, 120 Broadway (see add p. 130)
The Manhattan Fire Proofing Co. MacIntyre bldg, 874 Broadway (see add p. 132)
The Schillinger Fire Proof Cement and Asphalt Co. 413 E. 91st
The Van Fire Proofing Co. Albert Von den Driesch, 92-94 Liberty

THE VAN FIRE PROOFING COMPANY.

(ALBERT VON DEN DRIESCH,)

HOLLOW, HARD AND POROUS

TERRA COTTA BLOCKS

For all Kinds of Fire Proof Construction.

92 & 94 LIBERTY ST., NEW YORK

See Advertisement, opp. back inside cover.

Tile Fire Proofing Construction Co. Central bldg, 143 Liberty
Union Terra Cotta Lumber Co. 287 Broadway
Wyandance Brick and Terra Cotta Co. 19 Park pl

TERRA COTTA LUMBER.

Meeker & Carter, 14 E. 23d
Staten Island Terra Cotta Lumber Co. Equitable bldg, 120 Broadway

STATEN ISLAND TERRA COTTA LUMBER CO.

MANUFACTURERS OF

**Fire Brick, Ornamental Building Brick, Acid
Brick and Paving Brick.**

New York Office, Equitable Building.
Factories, Woodbridge, N. J.

See Advertisement, page 130.

Union Terra Cotta Lumber Co. 287 Broadway

TERRA COTTA, POROUS, FOR ROOFING.

Baltimore Terra Cotta Co. I. C. Hendrickson, sole agt. 237 Broadway (see add p. 139)
De Rache, Leonard, W. 70th st. bet. Tenth and Eleventh avs (see add p. 133)
Guastavino Fire Proof Construction Co. W. 57th st. and North River (see add opposite Part 3, Twelfth Ward)
Isaacs, Gustavus, 24 Bethune
Maurer, Henry & Son, 420 E. 23d (see add next to back cover)
Meeker & Carter, 14 E. 23d
New, T. Mfg. Co. MacIntyre bldg, 874 B'way
North American Pyrogranite Co. 52 W. 15th
Person, Orrin D. Mohawk bldg, 160 Fifth av. eor. 21st (see add p. 139)
Raritan Hollow & Porous Brick Co. MacIntyre bldg, 874 Broadway
Robbins, Geo. B. & Co. Third av. and 136th (see add p. 122)
Staten Island Terra Cotta Lumber Co. Equitable bldg, 120 Broadway (see add p. 130)
The Van Fire Proofing Co. Albert Von den Driesch, 92-94 Liberty (see add opposite back inside cover)
Thomas, E. H. 173 Broadway
Tile Fire Proof Construction Co. Central bldg, 143 Liberty
Union Terra Cotta Lumber Co. 287 B'way

TERRA COTTA WALL COPING.

Baltimore Terra Cotta Co. I. C. Hendrickson, sole agent, 237 Broadway (see add p. 139)
Colman, Chas. H. & Co. 145 Broadway (see add pp. 136, 137)
Maurer, Henry & Son, 420 E. 23d (see add opposite back inside cover)
Meeker & Carter, 14 E. 23d
New, T. Mfg. Co. MacIntyre bldg, 874 B'way
Person, Orrin D. Mohawk bldg, 160 Fifth av. eor. 21st (see add p. 139)
Staten Island Terra Cotta Lumber Co. Equitable bldg, 120 Broadway (see add p. 130)
Stewart & Co. Manhattan Pottery & Terra Cotta Works, ft. of W. 18th and 19th and 312 Pearl (see add p. 4)
The U. S. Fire Clay Co. Charles H. Colman & Co. 145 Broadway (see add p. 136)
Thomas, E. H. 173 Broadway

TERRA COTTA WORKS, POTTERY MFGS.

Menlo Park Ceramic Works, Jer. T. Smith, prop. office and show rooms eor. E. 23d st. and Madison av (see add p. 131)
Stewart & Co. Manhattan Pottery & Terra Cotta Works, ft. 18th and 19th and 312 Pearl

Theatre Curtains, Fire Proof.—Theatrical and Stage Hardware.—Thermometer and Barometer Manufacturers.—Tile and Vault Lights, Concrete, Illuminating.

STEWART & CO.,
Manhattan Pottery & Terra Cotta Works,
 Foot of West 18th & 19th Sts.,
 And 312 Pearl Street, Corner Peck Slip,
NEW YORK.

See Advertisement, page 4.

THEATRE CURTAINS, ASBESTOS.

Chalmers-Spence Co. The, 59 Liberty
 Fire Proof Paint Co. (the Martin process), 162-
 164 W. 27th
 Johns, H. W. Mfg. Co. 87 Maiden la

THEATRE CURTAINS, FIRE PROOF.

Clark, Bunnett & Co. 162-164 W. 27th (see add
 p. 45)
 Fire Proof Paint Co. (the Martin process), 162-
 164 W. 27th
 Howard & Morse, 45 Fulton (see add p. 5)

THEATRICAL AND STAGE HARDWARE.

Strohmenger, Charles, L. jr. 493 Sixth av

C. L. STROHMENGER, Jr.

Theatrical & Stage Hardware & Supplies,

HOTEL SUPPLIES, HOUSE FURNISHING
 AND BUILDERS' HARDWARE.

493 SIXTH AVE., Near 30th Street, N. Y.

THERMOMETER AND BAROMETER MFRS.

Barry, John (self-registering fever), 62 Fulton
 Bayer & Fletcher (clinical), 66 Beekman
 Beck, Albin, 40 Fulton
 Draper Mfg. Co. (recording), 152 Front
 Hoehn, R. & Co. 44 College pl
 Holman & Maurer, 90 Fulton
 Neubeck, August & Co. 111 Nassau
 Perfection Thermometer Co. (advertising ther-
 mometer), 496 Cherry
 Schaffer & Budenberg, 40 John
 Seipel, John, 90 Park row
 Standard Thermometer Co. (metallic and re-
 cording thermometers), 18 Cortlandt
 Tagliabue, Chas. J. 51-53 Fulton
 Tagliabue, G. 302 Pearl
 Tagliabue, John, 66 Fulton

Wagner, Constantine, 164 William
 Wassweiler, C. & Co. 167 William
 Weinhausen, Henry (chemical thermometer), 22-
 24 S. William
 Weiss, A. A. & Co. 1 Chambers

TILE AND VAULT LIGHTS, CONCRETE, ILLU- MINATING.

Atlantic Iron Works, 706 E. 12th
 Cornell, J. B. & J. M. 141 Centre and 26th st.
 bet. 10th and Eleventh avs (see add pp. 35,
 37, 39)
 Dale Tile Mfg. Co. Ltd. 398 Broome (see add
 p. 49)
 French, J. C. & Son. 452 Canal (see add p. 47)
 Hafers, Chris, 407 W. 37th (see add p. 34)
 Jackson Arch. Iron Works, 315 E. 28th (see
 add p. 31)
 Langill, T. W. 406 W. 17th
 Lindsay, Wm. A. 61 Warren
 Lyon, W. E. 202 E. 46th (see add p. 46)
 Mark, Jacob, 7 Worth

JACOB MARK,

Manufacturer of

Concrete Illuminating Tile

And all Kinds of Vault Lights for Areas, Roofs,
 Floors, Etc.

7 WORTH STREET, NEW YORK.

See Advertisement, page 30.

Nichols, Samuel & Son, 66 W. 3d
 Owens, Alex. & Co. 218 Hudson
 Tice & Jacobs, 510 Pearl (see add p. 32)
 Westing, Theo. 449-455 W. 41st

TILE MFRS. AND DEALERS.

American Encaustic Tiling Co. Mfrs. Ltd. 138
 140 W. 23d (see add p. 76)
 Babson & Harmon, 5 E. 17th
 Batterson, See & Eisele, 431 Eleventh av
 Belcher, Stephen P. 58 Liberty
 Boote, Alfred. 1567 Broadway
 Boston Terra-Cotta Co. Times bldg, 41 Park row
 Brigham, John K. 1458 Broadway
 Conover, J. S. & Co. 28-30 W. 23d (see add
 p. 85)
 Dale Tile Mfg. Co. Ltd. 398 Broome (see add
 p. 49)
 Davis, Read & Alexander, 18 E. 15th
 Elterich Art Tile Stove Works, Mfrs. 106 Beek-
 man
 Fleming Cement and Brick Co. 23 Liberty
 Friebele, Charles, 262 Seventh av
 Gleason, Henry, 106 Beekman
 Gunnison, A. 5 E. 17th
 Haldy, George H. 115 Broadway

Howden & Fish, Chelsea hotel bldg. 216 W. 23d
(see add p. 77)

Jackson, Wm. H. & Co. 27 E. 17th (see add
p. 84)

Jackson's, W. Sons, 246 Front

Jaros, J. N. & Co. 52 W. 15th

Kirtland, Andrews & Co. Ltd. 46-48 Union sq
(see add p. 83)

Maas, Henry, 192 E. Houston

Menlo Park Ceramic Works, Mfrs. Jere T.
Smith, prop. office and showrooms e 23d and
Madison av (see add p. 131)

Miller & Coates, 279 Pearl

Mosaic Tile Co. 140 Nassau

Mott, J. L. Iron Works, 88 Beekman

New York Vitrified Tile Co. Mfrs. office and
works 81 Fourth st. Bklyn. New York offices
10-12 Reade

The New York Vitrified Tile Co.,

Manufacturers of

Porcelainous Floor Tiles

In Various Colors and Sizes.

Office & Works, 79 to 87 Fourth St., Brooklyn, N.Y.

N. Y. Office, 10 & 12 Reade St.

See Advertisement, page 77.

Penrhyn Slate Co. The, 101 E. 17th (see add
p. 80)

Person, Orrin D. Mohawk bldg. 160 Fifth av
e 21st (see add p. 139)

Pries, W. H. 434 Canal

Rossmann, Robert, 26 University pl

Smith, Jere T. 23d and Madison av. prop.
Menlo Park Ceramic Works (see add p. 131)

Sonius, P. C. & Son, 330 E. 23d

Thomas, E. H., 173 Broadway

Tice & Jacobs, 510 Pearl (see add p. 32)

Traitel Bros. 499 Fifth av (see add p. 82)

Van Orden, Edward & Co. 110 John

Wilson, James G. 74 W. 23d (see add p. 82)

TILES, BUFF.

American Eneastic Tiling Co. Ltd. 138-140 W.
23d (see add p. 76)

Howden & Fish, showrooms The Chelsea bldg.
216 W. 23d (see add p. 77)

Menlo Park Ceramic Works, Jere T. Smith,
prop. office and showrooms e E. 23d and
Madison av (see add p. 131)

North American Pyrogranite Co. 52 W. 15th

Staten Island Terra-Cotta Lumber Co. Equi-
table bldg. 120 Broadway (see add p. 130)

The New York Vitrified Tile Co. office and
works, 79-87 Fourth, Bklyn. New York offices
10-12 Reade (see add p. 77)

Traitel Bros. 499 Fifth av (see add p. 82)

TILES, ENCAUSTIC.

American Eneastic Tiling Co. Ltd. 138-140
W. 23d

The AMERICAN ENCAUSTIC TILING CO., Ltd.

Patentees and Manufacturers of

Plain, Glazed, Pebbled, Inlaid, Embossed, Decorated
and Mosaic Tiles for Floors, Walls, Fireplaces,
Cabinet Work and Architectural Enrichment.

138-140 West 23d St., ZANESVILLE,
NEW YORK. OHIO.

See Advertisement, page 76.

Brooklyn Slate Mantel Co. 803 Monroe, Bklyn.
New York salesrooms 1114 Park av e 90th
(see add p. 81)

Conover, J. S. & Co. 28-30 West 23d (see add
p. 85)

Howden & Fish, Chelsea hotel bldg. 216 E.
23d

HOWDEN & FISH,

Manufacturers & Importers of

English, French and Scotch Tiles

For Floors, Walls, Bathrooms and Fireplaces, Open Fire-
places. Artistic Wood and Slate Mantels. Showrooms,

The Chelsea Building, No. 216 West 23d St. N. Y.

See Advertisement, page 77.

Jackson, Wm. H. & Co. 27-29 E. 17th (see add
p. 84)

Jackson's, W. Sons, 246 Front

Kearney, Peter, 1458 Broadway

Kirtland, Andrews & Co. Ltd. 46-48 Union sq
(see add p. 83)

Mosaic Tile Co. 140 Nassau

Traitel Bros. 499 Fifth av

TRAITEL BROS.,

No. 499 FIFTH AVENUE, NEW YORK,
Next Door to 42d Street.

TILES, MOSAICS.

Mantels, Grates, Andirons & Fenders. Artistic Wrought
Iron. Sole Agents French Flint Floor Tiles. Longwy
Wall Tiles.

See Advertisement, page 82.

Wilson, James G. 74 W. 23d (see add p. 82)

TILES, FIRE PROOFING.

Colman, Charles H. & Co. 145 Broadway (see
add pp. 136, 137)

Conway, D. & Sons, 173 Broadway

Dale Tile Mfg. Co. Ltd. 398 Broome (see add
p. 49)

Maurer, Henry & Son, 420 E. 23d (see add p.
next to back cover)

New, T. Mfg. Co. MacIntyre bldg. 874 Broad-
way

Person, Orrin D. Mohawk bldg. 160 Fifth av
e 21st (see add p. 139)

Schillinger Fire Proof Cement and Asph. Pave-
ment Co. 413 E. 91st

Thomas, E. H. 173 Broadway

Tile Fire Proof Construction Co. Central bldg.
e Liberty and West

Traitel Bros. 499 Fifth av (see add p. 82)

TILES, FLOORING, CEIL- INGS, AND WAINSCOTING.

American Encaustic Tiling Co. Ltd. 138-140 W. 23d (see add p. 76)
Brooklyn Slate Mantel Co. 803 Monroe, Bklyn. (see add p. 81)
Conover, J. S. & Co. 28-30 W. 23d (see add p. 85)
Davidson Sons' Marble Co. 27th and Eleventh av (see add p. 123)
Fleming Cement and Brick Co. 23 Liberty
Jackson, W. H. & Co. 27 Union sq (see add p. 84)
Kirtland, Andrews & Co. Ltd. 46-48 Union sq (see add p. 83)
Menlo Park Ceramic Works, Jere T. Smith, prop. office and showrooms c E. 23d and Madison av (see add p. 131)
Person, Orrin D. Mohawk bldg. 160 Fifth av (see add p. 139)
Pyrogravure Wood Co. 230 E. 37th (see add pp. 96, 97)
Smith, Jere. T. 23d and Madison av. prop. Menlo Park Ceramic Works (see add p. 131)
Traitel Bros. 499 Fifth av (see add p. 82)
Wilson, James G. 74 W. 23d (see add p. 82)

TILES, HARD.

American Encaustic Tiling Co. 138-140 W. 23d (see add p. 76)
Dale Tile Mfg. Co. Ltd. 398 Broome (see add p. 49)
Davidson Sons' Marble Co. office c. Eleventh av and 27th (see add p. 123)
Eltrich Art Tile Stove Works, 106 Beekman
Haldy, George H. 116 Broadway
Jackson's, W. Sons, 246 Front
Menlo Park Ceramic Works, Jere T. Smith, prop. office and showrooms c E. 23d and Madison av (see add p. 131)
Miller & Coates, 279 Pearl
Mosaic Tile Co. 140 Nassau
New York Vitri-
fied Tile Co. office and works 81 Fourth st, Bklyn. New York office 10-12 Reade (see add p. 77)
Staten Island Terra-Cotta Lumber Co. Equitable bldg. 120 Broadway (see add p. 130)

TILES, HOLLOW.

Conway, D. & Sons, 173 Broadway
Menlo Park Ceramic Works, Jere T. Smith, prop. office and showrooms c E. 23d and Madison av
New, T. Mfg. Co. MacIntyre bldg. 874 Broadway
Person, Orrin D. Mohawk bldg. 160 Fifth av c 21st (see add p. 139)
Staten Island Terra-Cotta Lumber Co. 120 Broadway (see add p. 130)
Thomas, E. H. 173 Broadway

TILES, ROOFING, VITRI- FIED.

Colman, Chas. H. & Co. 145 Broadway (see add pp. 136, 137)
Conway, D. & Sons, 173 Broadway
Fleming Cement and Brick Co. 23 Liberty
New, T. Mfg. Co. MacIntyre bldg. 874 Broadway
Person, Orrin D. Mohawk bldg. 160 Fifth av c 21st (see add p. 139)
Schwoerer, J. 8 E. Second (see add p. 142)
The New York Vitri-
fied Tile Co. office and works 79-87 Fourth, Bklyn. New York office 10-12 Reade
Thomas, E. H. 173 Broadway

E. H. THOMAS, VITRIFIED ROOFING TILES Of Terra Cotta.

No. 173 BROADWAY, NEW YORK,
ROOM 9.

TILING, ARTISTIC AND ORNAMENTAL.

Aeschliman & Pellarin 231 E. 28th
American Encaustic Tiling Co. Ltd. 138-140 W. 23d (see add p. 76)
Batterson, See & Eisele, 431 Eleventh av
Boote, Alfred, 1567 Broadway
Conover, J. S. & Co. 28-30 W. 23d (see add p. 85)
Conway, D. & Sons, 173 Broadway
Dale Tile Mfg. Co. Ltd. 398 Broome (see add p. 49)
Davidson Sons' Marble Co. 27th and Eleventh av (see add p. 123)
Davis, Read & Alexander, 18 E. 15th
Gibson's, William, Sons, 142 E. 33d
Herter Bros. 150 Fifth av
Italian Marble Mosaic Co. 412-416 E. 23d
Jackson, William H. & Co. 27 Union sq (see add p. 84)
Jackson's, W. Sons, 268 Water
Kirtland, Andrews & Co. Ltd. 46-48 Union sq (see add p. 83)
Klaber, A. 238 E. 57th
Menlo Park Ceramic Works, Jere T. Smith, prop. office and showrooms 23d and Madison av (see add p. 131)
Mersereau, W. T. & Co. 39 Union sq
Miller & Coates, 279 Pearl
Mosaic Tile Co. 140 Nassau
Person, Orrin D. Mahawk bldg. 160 Fifth av (see add p. 139)
Smith, Jere T. prop. Menlo Park Ceramic Works, 23d and Madison av (see add p. 131)
Traitel Bros. 499 Fifth av (see add p. 82)
Wilson, James G. 74 W. 23d (see add p. 82)

TIMBER DEALERS.

Bell, Bros. Eleventh av and 21st (see add p. 105)
 Bucki, Charles L. & Co. ft. W. 13th
 Carman, Charles B. 44 Broadway
 Chandler, Sutton & Co. 46 South
 Decamp & Wilson, 88 Cortlandt
 Decker & Co. A. T. ft. Bethune, N. R.
 Dowd, Olney B. 284 Ave. A
 East River Mill and Lumber Co. ft. 92d and 93d, E. R.
 Empire Mills Co. 16 Beaver
 Hilton Timber and Lumber Co. 81 New
 Johnson, Jarvis, 77 South
 Moore, John C. 74 Cortlandt
 Murray, Alfred J. 16 Beaver
 Nichols, Charles K. 74 Cortlandt
 North, C. F. & Co. 150 Broadway
 Ogden & Co. 411 Washington
 Roberts & Case, 62 Broadway
 Russell, John W. 200 Broadway
 Sawyer & Co. 95 Liberty
 South Brooklyn Saw Mill Co. 16 Beaver
 Sullivan Timber Co. 52 Broad
 Wilson, Adams & Co. ft. E. 42d, E. 138th n Mott av. and 140 Pearl
 Winant, Cornelius, 241 South
 Yellow Pine Co. 16 Beaver

TIME DETECTORS.

Accurate Time Stamp Co. 431 Eleventh av
 American Watchman's Time Detector, J. S. Morse, supt. 234 Broadway
 Berusee, Christian D. 5 Beekman (see add p. 70)
 Hausburg, O. E. 41 Maiden lane
 Hoppe, Paul F. 34 Church
 Imhauser, Eliza, 206 Broadway
 Magneto National Time Detector Co. 45 Cortlandt
 Nanz & Co. 116 Chambers
 Sandford, Charles E. 18 Broadway
 Shaw Time Stamp Co. Nassau Chambers, 114-116 Nassau

TIN, AMERICAN, MFRS.

DeMilt, H. R. Co. 238 Water
 Merchant & Co. 247 Pearl

TIN AND METAL ROOFERS.

Abbott, M. Sons, 137 Eighth av
 Abel, Charles W. 53 Orchard
 Aeh, Simon, 210 E. 59th
 Alexander Bros. 3 Pelham
 Alpha Gas & Metal Co. 57 Broadway
 Architectural Sheet Metal Works, 205 E. 99th
 Barlier, Louis, 753 Sixth av
 Beatie, Andrew, 33 Second
 Becker, J. C. L. 174 E. 87th
 Bergman, J. 145 Sixth av

Berghmd, Charles A. 772 Third av
 Berkelman, C. 30 Sullivan
 Berwitz, Robt. J. 257 Rivington
 Bloomer, John P. 11 E. 10th
 Blumenthal, S. & Co. 573 Eighth av
 Boland, D. 273 Hudson
 Borkel, John, 42 and 44 E. Houston
 Boss, Simon, 28 Columbia
 Brandt, Fred. 169 E. 85th (see add p. 106)
 Brandt, W. H. 555 E. 140th
 Breivogel, George, 46 and 53 Rose
 Brindel, M. 509 W. 28th
 Brinkman, L. H. 241 E. 42d
 Brosehart, David, 789 E. 144th
 Brown, Wesley, 3191 Third av
 Buchsbaum, J. 126 Delancy
 Canning, E. 166 Franklin
 Cary, H. & Sons, 130 E. 129th
 Christ, J. C. & Son, 263 William
 Cohen, Louis, 186 Ninth av
 Collins, James H. 204 W. 18th
 Connors & Evans, 81 Fulton
 Constant M. J. 2715 Third av
 Conway, D. & Sons, 173 Broadway
 Cooper & Levine, 50 Ludlow
 Coot, John, 15 Seventh av
 Coot, W. H. 178 Wooster
 Cunio James & Son, 112 Fulton
 Curran, Patrick, 240 Seventh av
 Curry, Patrick, 530½ Broome
 Darcy, Felix, 163 31st
 DeGeorge, Anton, 501½ W. 49th
 Degnan, John, 769 Ninth av
 Delaney, Henry, 1024 Third av
 Dexheimer, Matthew, 2478 Eighth av
 Doran, Edward, 476 Hudson
 Downs, John, 108 W. 42d
 Dreyer, Gustave, 205 Division
 Dreyer, Louis, 399 W. 18th
 Dugan, R. J. 164 Mulberry
 Dunn, L. J. 350 E. 64th
 Dusenbury, Geo. 28 Church
 Eberhartt, M. & Son, 1464 First av
 Edel, Charles, 3367 Third av
 Ellerston, Louis, 26 Attorney
 Engel, Henry, 137 E. Houston
 Ennis, William, 219 Sullivan
 Eppinger, William & Son, 3611 Third av
 Farrell, M. J. & Co. 122 E. 11th
 Finley, John, 258 Division
 Fischer, George & Bro. r 209 Forsyth
 Fitzsimmon, M. 224 W. 36th
 Flanagan, John, 392 Fourth av
 Francis, R. J. 113 Ninth av
 Frank, John, 510 E. 14th
 Frewald, J. 156 Greenwich
 Fritz & Hafner, St. Nicholas av n W. 140th
 Fuchsevecher, Louis, 107 Stanton
 Germania Roofing Co. 16 Grand
 Germiek, Carl, 975 E. 161st
 Gilligan, Michael, 372 Tenth av
 Goetz, A. 37 Rivington
 Goldstein, Jacob, 7 Ludlow
 Gompers, S. 227 E. 107th
 Good, Wm. E. 352 W. 17th
 Goodwine, Phillip, 20 Eighth av
 Gorton, James, 1545 Third av
 Gorton, S. & W. 259 W. 21st
 Grant, D. Louis, 83 Cedar
 Grasser, L. 462 Third av
 Gregory, James, 140 W. 38th

Griggs & Crowley, 294 Sixth av
 Guena, Daniel, 301 E. 63d
 Gunning, Thomas, 293 Tenth av
 Hafner, Jacob, 2080 Amsterdam av
 Hagan, Thomas, 868 Eighth av
 Hagan, Thomas, 227 E. 56th
 Hamowitz, I. & Son, 47 Orchard
 Halliday, M. 218 E. 9th
 Hannan, John W. 1885 Vanderbilt av
 Harder, A. L. 316 Hudson
 Harlem Roofing Co. 543 E. 116th
 Harrison, M. & Son, 214 E. 52d
 Harrison, Timothy, 225 Centre
 Hartley, Patterson & Co. No. 1 A Platt.
 Hassler, George, 168 Eldridge,
 Hatfield, Stephen E. 151 W. 25th
 Hertel, Frederick, 143 E. 13th
 Herz, David, 1439 Third av
 Hetzel, C. F. 1590 First av
 Hoetzel, M. 715 Cortlandt
 Hogendorf, Gotthard, 667 Eighth av
 Irving, George H. & Bro. 403 W. 24th
 Israel, M. 141 Ridge
 Isted, T. M. 189 E. 64th
 Jacobs, A. 528 Ninth av
 Jones, W. H. 602 Eighth av
 Jordan, Calvin R. 214 W. 4th
 Kahn, Jacob, 209 E. 71st
 Kalbert, A. 172 Essex
 Kennedy, Bros. 417 Willis av
 Kennedy, James & Co. 450 W. 19th
 Kenney, J. 429 W. 53d
 Kenney, Joseph, 359 W. 37th
 Kervan, Matthew, 106 W. 127th
 Kirk, Charles H. 1109 Washington av
 Klauck, Joseph, 672 Eighth av
 Klenert, Jacob, 364 Grand
 Klien, Adolph, 505 E. 11th
 Klopff, M. 144 First av
 Knauss, Gottlieb, 48 First
 Knopp, Frederick J. 337 E. 14th
 Koch, F. 67 Orchard
 Koshminsky, Morris, 1051 Third av
 Kuhn, William, Tenth av. n 158th
 Kutner & Rosenthal, 64 Cannon
 Lagerstedt, L. 161 E. 86th
 Lahm, C. 446 Ninth av
 Lalor, James F. 2335 First av
 Lederer, Charles, 40 Bond
 Leschinsky, Simon, 217 Division
 Levy, Benjamin B. 224 E. 121st
 Lewis, John A. 46 Rose
 Leyrer, L. G. 2094 Third av
 Lichtenstein, N. 235 Stanton
 Lindner, Morris, 857 Tenth av
 Loebel, Bros. 65 Grand
 Lufburrow, John E. 15 Columbus av
 Madden & Co. 954 Third av
 Maguire, A. 4 Stuyvesant
 Mahoney, D. & Son, 121 Ninth av
 Mantel, C. 52 Carmine
 Manz, L. 814 Tenth av
 Matthews, James & Son, 510 E. 20th
 May, Wm. 609 W. 52d
 McArdle, P. H. 154 E. 35th
 McGowan, P. & Son, 204 E. 81st
 McKaig, John, 60 Eighth av
 McLaughlin & Gleason, 62 Spring
 McMullen, M. 238 Sixth av
 Miller, William, 634 Ninth av
 Mooney, Wm. 860 Eighth av
 Moritz, M. 5 Forsyth

Morrow, J. 225 W. 50th
 Mosely, John S. 201 Chambers
 Mulligan, F. (metal), 116 W. 18th
 Murphy, George M. 43 New Chambers
 Nadel, David, 532 Sixth
 National Sheet Metal Roofing Co. 9 Cliff
 Neil, John, 445 W. 16th
 Neumann, H. 2202 Eighth av
 Neumann, Louis, 362 Third av
 Newman, William, 513 Tenth av
 New York Iron Roofing and Corrugating Co.
 29 Broadway (see add p. 51)
 New York Roofing Co. 437 E. 23d and 10 War-
 ren
 Nicholson & Galloway, 646 Hudson
 Norris, Thomas, 204 E. 47th
 Obenaus, M. 192 Orchard
 O'Callaghan, Thomas, 42 W. 62d
 O'Crowley, Michael F. 41 Ann
 O'Shaughnessy, Michael, 409 W. 13th
 Ottiwell, John D. 199 Third av
 Parke, John, 344 Sixth av
 Rahm, M. 223 Second
 Regan, J. 153 Franklin and 68 Park p
 Rehm, T. 301 W. 52d
 Reichert, Christian, 106 Essex
 Reilley, John, 154 Third av
 Ryan, Patrick J. 321 E. 93d
 Ryan & Thompson, 103 Lewis
 Scherrer, C. 448 Seventh av
 Schmidt, Henry & Son, 409 Broome
 Schmidt, Herman, 203 Forsyth
 Schnmittknecht John, 773 Second av
 Scholz, Carl, 1988 Third av
 Schwoerer, Anthony, 120 Ave. D
 Schwoerer, Jacob, 8 Second (see add p. 142)
 Seidel & Galvin, 470 Hudson
 Sheriden, H. 405 E. 17th
 Sherwood Bros. 170 E. 62d
 Sibbald, John W. 2635 Eighth av
 Simpson, I. H. 1505 Ninth av
 Smith, George, 411 Second av
 Smith, James, 424 Fourth av
 Smith & Miller, 441 W. 39th
 Steadler, John E. jr. 449 E. 77th
 Stoffel, A. 156 E. 35th
 Stolz, Francis, 2966 Third av
 Timmons, John, 203 W. 17th
 Trillich, Henry, 103 Ave. D
 Turno, Henry, 2292 Second av
 U. S. Roofing Co. 205 E. 110th
 Valentine, Geo. F. M. 227 Greene
 Vance, Richard, 545 Broome
 Van Riper, Charles & Co. 157 E. 126th
 Vierck, Herman, 421 Third av
 Vincent, Wm E. D. 445 W. 45th
 Waedelich, George, 324 Tenth av
 Wallace, Walter W. 845 Sixth av
 Walsh, Henry J. 37 Sullivan
 Walsh, John J. 255 E. 127th
 Wanzer, Charles, 205 Lewis
 Wendling, H. 17 Delancy
 Weintraub, Jacob, 872 Third av
 Weiss, Jacob, 109 Ridge
 Werber, Frank, 252 Madison
 Werner, Charles, 611 E. 150th
 Werner, G. F. 408 and 410 E. 77th
 Werner, W. & Co. 494 Tenth av
 Westphal, Louis. 501½ W. 36th
 Whitmore, Joseph B. 260 Eighth av
 Williams, W. 146 W. 100th
 Willis, W. H. 3 9 Third av

Winters, Charles, 68 Grove
Wolff, Charles, 3 Reetor

TIN PLATE, WHOLESALE.

Archer, J. J. (broker), 20 Cliff
Bruce & Cook, 186, 188, 190 Water and 248 and 250 Pearl
Coddington, T. B. & Co. 27 Cliff
Cort, N. L. & Co. 245 and 247 Water
Crooks, Robert & Co. 64 and 66 John
DeMilt, H. R. & Co. 238 Water
Dickenson, Van Dusen & Co. 29 and 31 Cliff
Merchant & Co. (importers), 247 Pearl
Merry, John & Co. 535 and 547 W. 15th (see add p. 66)
Phelps, Dodge & Co. 11 and 13 Cliff
Recht, C. 183 Bowery
Thompson, A. A. & Co. 213 and 215 Water
Trench, Charles S. & Co. (brokers), 54 Cliff
White, John E. & Co. 62 William
Whittemore, H. & Co. 58 William

TIN, SHEET IRON AND COPPER WORKERS.

Angevine, W. H. 232 E. 59th
Axtmann, Charles A. 1602 Third av
Barnett, E. W. 163 Maiden la
Barth, Leopold, 87 First av
Bauer, Theo. 1609 Broadway
Bayles, H. & H. 106 South
Beck, Geo. H. 1515 First av
Beer, Andrew, 402 W. 38th

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Stoves and Heaters repaired and put up. Roofs and
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Behrendt, Edward, 264 W. 46th
Behringer, Erhart S. 118 Maiden la
Bellamy, J. F. 53 Manhattan av
Bender, F. W. 209 E. 74th
Berg, Henry, 2187 Second av
Bergeman, J. 145 Sixth av
Bermann, Leon (cans) 179 South
Berwisky, M. 59 Forsyth
Biegen, Adam, 156 Third av
Blaise, John, 575 Grand
Blickman, Hyman, 82 Bayard
Block, Jacob, 63 Lewis
Blum, Charles J. 763 Ninth av
Bolton, A. G. 1665 Broadway
Bonaszewski, Ignatz, 311 E. 31st
Borkel, John, 42-44 E. Houston
Boss, Simon, 54 Sheriff
Bowsky, L. 843 Third av
Bozzetti, Paul, 170 Wooster
Braunseiner, L. 126 Av. C
Broschardt, D. 791 E. 144th
Brown, Wesley, 3191 Third av
Burns, John, 163 Pearl
Butener, Frederick, rear 122 E. 11th

Calkin, H. C. & J. H. 177 Christopher
Campbell, Wm. 45 Great Jones
Canning, E. 166 Franklin
Carey, James J. 101 Greenwich
Carpenter, Allen, 103 N. Moore
Clark, Wm. 735 Tremont av
Connolly, James H. 534 Sixth av
Conover, Geo. M. 2289 Second av
Conran, Wm. F. (plumbers) 305 Pearl (see add p. 496)
Conrath, Chas. W. 189 E. 4th
Coot, John, 15 Seventh av
Cornell, Jas. H. 98 Wooster
Crahy, M. E. 191 Third av
Crotty, J. 943 Sixth av
Daly, James, 907 Sixth av
Dedreaux, Perski (sheet iron) 1650 Third av
DeGeorge, Alexander, 501½ W. 49th
Dexheimer, Henry, 2306 Eighth av
Diamond Bros. 409 Fourth av
Dode, D. jr. 549 Third av
Dodge, Warren W. 1517 Third av
Dohrenwood, Wm. 230 Columbus av
Dooley, Peter, 399 Eighth av
Dreyer, Louis, 339 W. 18th
Duparquet, Huot & Moneuse, 43 Wooster
Dusenbury, Wm. E. 86 Broad
Ehrlich, Moritz, 86 Columbia
Eiben, Henry, 74 King
Ennis, Wm. 152 Sullivan
Erbert, Francis X. 695 Second av
Erchoff, H. 633 E. 13th
Ernst, Sigmund, 216 Canal
Farley, James & Co. 36 Water
Federroll, R. 267 W. 35th
Feudotner, Charles, 139 Forsyth
Flaccus, F. & Son, 102 First av
Flanagan, John, 356 Fourth av
Fox, Thos. 385 Tenth av
Francis, R. J. 113 Ninth av
Fricke, Adolph, 47 First av
Gallagher, John, 316 Spring
Gallagher, Michael, 33 Roosevelt
Gambee Roofing Co. 637 E. 145th
Ganzfreid, Jacob, 637 Ninth av
Gehrich, Herman, 69 Rutgers st
Gelb, Louis & Co. 192 South
Gengel, Henry, 667 Eighth av
Gerlach, J. N. 697 Sixth av
Germeeck, Carl, 183 E. 119th
Geshte, Joseph, 1857 Tenth av
Ginsberg, Louis, 79 Bayard
Gippert, Robert, 234 Eldridge
Glueck, Simon, 172 Ludlow
Goldstein, A. 652 Third av
Goldstein, Joseph, 34 New Bowery
Goodwine, P. 20 Eighth av
Graham, David S. 2136 Eighth av

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 Greeburg, Abraham, 77 Bayard
 Greenwald, A. 1873 Third av
 Gregg, Peter, 27 Jane
 Gries, Bernard, 1485 Second av
 Griffiths & Co. (tin) 515 E. 19th
 Griggs & Crowley, 294 Sixth av
 Grolman, Frank, 396 Seventh av
 Grosse, Charles, 1644 Second av
 Grosswirth, Ludwig, 138 Pitt
 Gutzeit, Herman, 413 Bleecker
 Haas, Valentine, 31 Av. C
 Hagan, John, 76 W. 36th
 Hagan, Thomas, 227-229 E. 56th
 Haimowitz, J. & Son, 47 Orchard
 Hanover, S. J. 708 Ninth av
 Hansman, Wm. A. 31 Av. C
 Hart & Rosenbaum, 258 Delancy
 Hartley, Paterson & Co. 1a Platt
 Hassler, Geo. 168 Eldridge
 Heim, John, 409 Fifth
 Heller, I. 12 Bayard
 Henney, George, 2618 Third av
 Herche, A. W. 325 W. 38th
 Herrlich, M. M. 144 Stanton
 Herz, David, 1439 Third av
 Hickson, W. S. 645 Sixth av
 Hopkins, Patrick A. 876 Sixth av
 Huck, Alois, 342 W. 37th
 Hulbig, August, 121 W. 30th
 Hull, Grippen & Co. 310-312 Third av
 Hupfer, Niklas, 50 E. Houston
 Hurley, John, 102 Centre
 Irving, Geo. H. & Bro. 403 W. 24th
 Isted, T. M. 175 E. 62d
 Jones, Geo. H. 561 Grand
 Josephowitz, H. 552 Ninth av
 Kane, J. C. 64 Beckman
 Kannofsky, John jr. 364 Pearl
 Kearney, John, 413 W. 32d
 Kelly, S. 256 Sixth av
 Kenney & Murphy, 196 Cherry
 Kissling, August, 2631 Tenth av
 Klein, Samuel, 2107 Second av
 Kleinert, Joseph, 1026 Second av
 Klenert, Jacob, 364 Grand
 Kloterdanz, Chas. 652 Second av
 Klopff, M. 144 First av
 Knauss, Gottlieb, 48 First
 Krieg, Peter, 27 Jane
 Kuhn, Wm. Tenth av, n 158th
 Kumly, George, 835 Third av
 Lahm, C. 446 Ninth av
 Lalor, Jas. F. 2335 First av
 Lampe, Adolph, 435 E. 15th
 Lapp, Henry, 8 Peck st
 Lenz, F. W. 145 Fourth av
 Leonhardt, N. H. 1446 Second av
 LeSavage, John, 40 Duane
 Leschinsky, S. 217 Division
 Levy, L. 6 Jefferson
 Lichtenstein, N. 235 Stanton
 Linbarger, John, 187 E. 116th
 Malcolm, Robert, 173 Christopher
 Marks, Leopold, 64 Attorney
 Markthaler, Edward, 464 Columbus av
 Martin, Anton, 174 Lewis

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 Mauer, E. 1793 Ninth av
 Mayer, Oscar, 27 Fulton
 McGinn, James, 411 W. 36th
 McGuckin & Blaise, 1239 Third av
 McKeon, B. 818 Sixth av
 McMullen, Michael, 238 Sixth av
 Meeks, Henry H. 1682 Third av
 Mellion, David, 40 Catherine
 Metzger, Jos. 232 E. 46th
 Molton, Chas. 129 Elm
 Moore, Thos. Amsterdam av, c. W. 160th
 Morrison, Richard H. 1255 Third av
 Muller, Wm. 204 W. 26th
 Mullins, W. H. 108 Chambers, J. T. Wagner,
 (see add. opp. 23d-Ward, Part 2)
 Murphy, Edward, 626 Third av
 Nadel, D. 530 E. 6th
 Netter, Jacques, 344 E. 33d
 Neuberger, Jacob, 1764 Second av
 Neumann, Louis, 362 Third av
 Newman, Jas. M. 260 Bowery
 New York Exhaust and Blow Pipe Co. 543
 W. 21st
 New York Sheet Iron Works, 197 Wooster
 (see add p. 42)
 Nicholson & Galloway, 646 Hudson
 Norton Can Co. The, 284 Pearl
 O'Brien, James, 651 Sixth av
 O'Callaghan, Thos. 42 W. 62d
 O'Crowley, M. F. 138 Broad
 Ottenheimer, Anna, 311 E. 60th
 Pace, Geo. A. & Co. 640 Madison av
 Plate, John, 13 Av. D
 Ploch, Henry, 8 Stanton
 Plock, Bernard, 97 Delancy
 Pohler, Jos. 201 E. 36th
 Prosky, Morris, 218 Eldridge
 Rahm, M. 223 Second
 Rehberger, M. 1340 Second av
 Rehm, J. E. 781 Tenth av
 Reich, Wm. 848 First av
 Reilly, James, 229 West
 Reilly, P. 66 W. 125th
 Reinecke, F. G. 68 Forsyth
 Reinshagen, John, 79 Allen
 Richardson & Welsh, 179 Seventh av
 Riker, R. P. 121 Warren
 Riordan, E. J. 463 Columbus av
 Robinson, W. G. 212 Third av
 Rosenzigi, A. 182 Seventh av
 Rubenstein, S. 61 Ridge
 Rudman, C. 60 Fulton
 Ryan, D. 778 Sixth av
 Sacks, H. 1483 Third av
 Salmon, Isador, 263 Av. B
 Samo, W. H. 200 W. 132d
 Sander, Adam, 464 Second av
 Schader, Jos. 145 W. Broadway

Schalek, F. A. 1108 Second av
 Schellman, V. M. 139 Spring
 Scherer, C. 448 Seventh av
 Schick, Philip, 117 St. Mark's pl
 Schinnagel, J. H. 173 William
 Schmidt, Gustav, 403½ W. 14th
 Schmidt, Henry & Son, 409 Broome
 Schmidt, Herman, 203 Forsyth
 Schmitz, Henry, 506 Pearl
 Schoen, J. 113 W. Broadway
 Schott, Louis, 366 E. Houston
 Schweikert, Wm. 798 Third av
 Schwoerer, J. 8 E. 2d (see add p. 142)
 Sel, B. & Co. 98 Division
 Severn, Andrew A. 155 Seventh av
 Sharlow, Abel, 501 Eleventh av
 Sieberg, Charles, 1224 Second av
 Silverman, Barnett, 94 Ludlow
 Simpson, I. H. 592 Columbus av
 Simpson, John E. 302 E. 81st
 Singer, S. 12 Av. B
 Smith, Christian, 2028 First av
 Smith, George, 411 Second av
 Smith, James, 25 E. 12th
 Smith, Robert, Boulevard n 68th
 Smith & McKeever, 10 Peck sl
 Stege, August E. 413 Fifth
 Steinman, Chas. 1280 Third av
 Stiller, Carl, 96 E. Houston
 Stolz, Francis, 2966 Third av
 Strauss, Chas. 158 Greene
 Stretz, F. 100 Centre (see add p. 66)
 Stuber, Henry. 37 W. 99th
 Stump, Geo. W. 460 Greenwich
 Styles, E. 164 Duane
 Suydam, S. A. 527 and 550 Hudson
 Taylor, H. M. 41 S. William
 Teets, Samuel A. 507 Eighth av
 Thatcher, James, 61 Centre
 Tielsch, Friedrich, 155 Forsyth
 Trageser, John, 447-457 W. 26th
 Trankler, H. A. 63 Barclay
 Trillich, Henry, 103 Av. D
 Tyson, Nettie, 813 Amsterdam av
 Unger, F. Joseph, 85 Ave. A
 Unsold, Geo. 604 Ninth av
 Valentine, Chas. H. 253 Columbus av
 Valentine, Geo. F. M. 227 Greene
 Vezina, J. 183 Thompson
 Vogel, Edward W. 465 Sixth av
 Walsh, Owen, 105 Walker
 Walsh & Co. 464 Greenwich
 Wangerin, A. 125 Fourth av
 Ward, Wm. 37 Centre
 Washington, Fred. H. 1828 Park av
 Watkins, James Y. & Son, 16 Catharine
 Weber, Andrew, 203 Ave. A
 Weste, John, 66 First av
 Westphal, Louis, 501½ W. 36th
 Weybrecht, Arnold, 38 Division
 White, Jas. 10 Forsyth
 Whiting, Chas. Kingsbridge rd. n E. 188th
 Willett, Joseph H. 882 Sixth av
 Williams, Hugh H. 2453 Eighth av
 Windsor, Wm. 1695 First av
 Winter, Jacob, 1023 First av
 Winters, Chas. 68 Grove

Wrubel, Samuel, 3 Orchard
 Yasinski, C. W. 2195½ and 2248 Third av
 Zimmermann, C. 189 E. Houston
 Zimmermann, L. Ernst, 100 Ave. B
 Zlotovsky, Barnett, 19 Hester

TIN SHINGLES.

De Milt, H. R. & Co. 238 Water
 Merchant & Co. 247 Pearl
 Mullins, W. H. 108 Chambers, Julius T. Wag-
 ner, agent (see add opp. 23d Ward, Part 2)
 Schwoerer, J. 8 E. 2d (see add p. 142)

TOOL CHESTS.

American Tool Co. 200 W. Houston

AMERICAN TOOL COMPANY,

Manufacturers of

TOOL CHESTS AND TOOLS,

200 WEST HOUSTON STREET,

NEW YORK.

See Advertisement, page 142.

Brombacher, A. F. & Co. 31 Fulton
 Little, C. E. 59 Fulton (see add p. 101)
 Pratt, James T. & Co. 53 Fulton

TOOL STEEL.

Pollock, Alexander, 15 Cortlandt

TOOLS.

Allen, H. F. 64 Third av
 Am. Axe & Tool Co. The, 280 B'way
 Am. Tool Co. 200 W. Houston

AMERICAN TOOL COMPANY,

Manufacturers of

TOOL CHESTS AND TOOLS,

200 WEST HOUSTON STREET,

NEW YORK.

See Advertisement, page 142.

Ankle & Co. 38 Dover
 Atwater, H. W. 74 Franklin
 Barnett, Oscar, 60 Cortlandt
 Beck, Chas. 1588 First av
 Bramberg, Chas. 91 Cliff
 Bridgeport Mach. Tool Works, 143 Liberty
 Brombacher, A. F. & Co. 31 Fulton
 Brombacher's, Jacob, Sons, 20 Cliff
 Brophy, Walter H. ft. E. 94th
 Bullard, Edward P. 72 Warren
 Church & Sleight, 109 Fulton
 Cleveland Twist Drill Co. 100 Reade
 Corcoran, Daniel J. 406 E. 49th
 Cunningham, Edward, 60 Centre
 Dewes, Abednego, 245 Centre

Donegan & Swift, 11 Murray
Dooley, Nicholas C. 536 W. 46th
Durbrow & Hearne, 357 Canal
Eclipse Tool Co. 652 Hudson
Fladd, Frederick C. 207 Centre
Fletcher, John R. 348 W. 37th
Ford, George L. 257 W. 27th
Fox, John, r 228 W. 20th
Franklin, George, 142 Centre
Frass, Peter A. & Co. 95 Fulton
Frass & Co. 92 Park row
Gallon, James, 114 E. 88th
Gates Bros. 504 W. 13th

CATES BROTHERS,

Manufacturers of

Stonecutters', Masons' & Contractors' Tools.

504 WEST 13th STREET,

Near Tenth Avenue, NEW YORK.
Hand-made Hickory Handles. Cam Wood for Marking.
Winding or Parallel Blocks in Stock.

Gesswein, F. W. (estate of), 39 John
Hauck, Jacob, 312 W. 41st
Hauschildt, F. & Co. 456 E. Houston
Hausen, George, 512 E. 16th
Hawkins, Wm. S. 135 Lewis
Hawkins & Norman, 319 E. 92d
Hawthorn & Finn, 258 Eleventh av
Healy, Ellen. 60 Centre
Humphrey Tool Co. 97 Chambers
Jennings, C. E. & Co. 79 Reade and 97 Chambers
Keystone Handle & Tool Co. 56 Prince
Koberlein, Frederick, 508 W. 24th

F. KOBERLEIN,

MOULDING CUTTER MAKER

No. 508 WEST 24th STREET,

NEW YORK.

See Advertisement, page 53.

Kotzum, Anton, 9 Franklin
Little, Charles E. 59 Fulton

PERMANENT EXHIBIT

Hand and Foot Power Machines.

W. F. & J. Barnes Co.'s. J. M. Marston & Co.'s.
Narragansett Mach. Co.'s. Seneca Falls Co.'s.

Adding Latest Goods as they Appear. Price List Free

LITTLE'S TOOL STORE,
59 FULTON STREET, NEW YORK.

See Advertisement, page 101.

McBain, Thomas A. 651 W. 46th
Madden Bros. 330 E. 123d
Manning, Maxwell & Moore, 111 Liberty
Mead, Ira W. 411 E. 23d
Mead, I. V. Tool Works, 370 Ave. A

ISAAC V. MEAD TOOL WORKS,

Manufacturers of

Stone Cutters', Contractors' & Masons' Tools,

370 AVENUE A, Near 23d St., N. Y.

Bush Hammers a Specialty. Repairing and Sharpening
Done in the Best Possible Manner. Iron Work in all its
Branches. Orders by Mail Promptly Attended to. Har-
lem Branch, 123d St. & Pleasant Ave. Established 1868.

See Advertisement, page 107.

Montgomery & Co. 105 Fulton
Neefus, James L. 103 Chambers
Newton Machine Co. 29 Greene
Niles Tool Works, 98 Liberty
O'Brien, Hugh. 418 E. 92d
Patterson, Gottfield & Hunter, Ltd. 115 Walker
Penn Diamond Drill Mfg. Co. 52 Wall
Pollock, Alex. 15 Cortlandt
Pond Machine Tool Co. 111 Liberty
Pratt, James T. & Co. 53 Fulton and 42 Cliff
Prentiss Tool & Supply Co. 115 Liberty
Prentiss Vise Co. 44 Barclay
Rhode Island Tool Co. 102 Chambers
Schmidt, Henry C. 104 Centre
Smiley, James, 795 Eleventh av
Standard Tool Co. 33 Chambers
Stanley Rule & Level Co. 29 Chambers
Stoughton, Edward P. 93 Reade
Taumany, Henry O. ft. E. 113th
Tapscott & Hibberd, 24 Cliff
Terhune, Abraham V. 210 Centre
Thomson, Wm. S. 420 W. 27th
Tucker, Cummings H. jr. & Bro. 126 Liberty
Valiquet, Louis P. 142 Fulton
Ward & Payne, 97 Chambers
Watts, Louis H. 191 Lewis
Weber & Strom, 2443 Third av (see add p. 75)
Weed, Riley & Co. 11 Gold
Wiley & Russell Mfg. Co. 126 Liberty

TOOLS, STONE CUTTERS', CONTRACTORS' AND MASONS'.

American Pneumatic Tool Co. The, 675 Hud-
son

Collins Co. 212 Water
Hauschildt, F. & Co. 456 E. Houston
Jackson, T. A. 654 W. 34th
Little C. E. 59 Fulton (see add p. 101)
McBain, Thomas, A. 651 W. 46th
Mead, I. W. 411 E. 23d
Mead, Isaac V. 370 Ave. A

ISAAC V. MEAD TOOL WORKS,

Manufacturers of

Stone Cutters', Contractors' & Masons' Tools,

370 AVENUE A, Near 23d St., N. Y.

Bush Hammers a Specialty. Repairing and Sharpening
Done in the Best Possible Manner. Iron Work in all its
Branches. Orders by Mail Promptly Attended to. Har-
lem Branch, 123d St. & Pleasant Ave. Established 1868.

See Advertisement, page 107.

Topping & Fox, 96 Chambers

TRAMWAYS.

Maynard, John Q. 114 Liberty (see add p. 20)

Traps, Ventilating.—Trucking, Heavy.—Tube Cleaners.—Tube Expanders.—Tubes,
Brass and Copper.

TRAPS, SEWER GAS, PLUMBERS' SUPPLIES.

Adee, Fred. 90 Beekman (see add p. 109)
Blakslee, E. G. Mfg. Co. 78 Centre
Blessing, George A. 290 Pearl (see add p. 110)
DuBois Mfg. Co. 245 Ninth av

DU BOIS MANUFACTURING CO.,
245 NINTH AVENUE,
NEW YORK.

Du Bois Lead Traps.

McClellan Trap Vents.

Du Bois Ejector Faucets.

See Advertisement, page 108.

Goulds Mfg. Co. 69 Barclay
Haydenville Mfg. Co. 73 Beekman
Lowe & Bro. 263 W. 12th
McShane, Henry, Mfg. Co. 625-627 Sixth av
(see add p. 108)
Mott, J. L. Iron Works, 88 Beekman
Sexton, Michael, 1112 Third av
Stewart & Co. 514 W. 19th

TRAPS, VENTILATING.

Adee, Fred. 90 Beekman (see add p. 109)
DuBois Mfg. Co. 245 Ninth av (see add p. 108)
Mott, J. L. Iron Works, 88 Beekman

TRUCKING, HEAVY.

Barrett, William, 252 Water
Carley, E. 281 Eleventh av
Jackson Bros. cor. Chambers and Church
Joyce, Edward, 513 Water (see add p. 48)
Keyes, John D. Co. Duane and Centre
McCormack, Robt. 550 W. 52d
Murphy & Son, 119 Liberty

TUBE CLEANERS.

Chalmers Spence Co. 59-61 Liberty
Greene, Tweed & Co. 83 Chambers (see add p. 53)
Roberts, Geo. I. & Bros. 471-473 Fourth av (see add pp. 62, 63)

TUBE EXPANDERS.

Dudgeon, Richard, 24 and 26 Columbia
Greene, Tweed & Co. 83 Chambers (see add p. 53)
McCoy, Joseph F. Co. 26 Warren
Roberts, George I. & Bros. 471-473 Fourth av
(see add pp. 62, 63)

TUBES, BRASS AND COPPER.

Ansonia Brass & Copper Co. 19 Cliff
Bailey, William H. 20 Gold
Bridgeport Brass Co. 19 Murray
Clark, James M. 534 Pearl
Eagle Tube Co. 41 Dey
Ellsworth, T. G. General Purchasing Agent, 67 Reade
Griggs, Elizur D. 63 Duane
Holmes, Booth & Haydens, 25 Park pl, 22 Murray
Manhattan Brass Co. 338 E. 28th
McShane, Henry, Mfg. Co. 625-627 Sixth av
(see add p. 108)
Meteor Dispatch Co. 23 E. 14th
Roberts, Geo. I. & Bros. 471-473 Fourth av (see add pp. 62, 63)
Spiral Weld Tube Co. 43 John
Wallace & Sons, 29 Chambers and 5 Reade

TUBING MFRS.

American Tube Works (brass and copper), 20 Gold
American Tube & Iron Co. (iron), 98 John
Ansonia Brass & Copper Co. (brass and copper), 19 and 21 Cliff
Benedict & Burnham Mfg. Co. 13 Murray
Bridgeport Brass Co. 19 Murray
Brooklyn Brass & Copper Co. (copper and brass), 100 John
Clark, J. M. 534 Pearl
Davol, John & Sons, 100 John
Eagle Tube Co. (wrought iron), 41 Dey
Elliott William, 12 Dover
Fearing, Wm. S. (mfrs.' agent), 100 Chambers
Griggs, E. D. (dealer brass), 61 and 63 Duane
Holmes, Booth & Haydens (brass, copper, German silver, zinc, etc.) 25 Park pl. and 22 Murray
Housatonic Brass Co. (brass), 44 Park pl
Keene, A. & Sons (small brass), 59 Duane
Knapp, John H. r 17 John
Leng's John S. Son & Co. (importers of iron and steel tubes), 4 Fletcher
Manhattau Brass Co. (brass, bronze, copper and zinc), 338 E. 28th
Meteor Despatch Co. (pneumatic), 23 E. 14th
National Tube Works Co. (wrought iron boiler), 160 Broadway
Osborne & Cheesman Co. (brass and copper), 39 Barclay
Penn Tube Works, 12 Cliff
Randolph & Clowes (brass, copper and German silver), 131 Worth
Scoville Mfg. Co. (brass and copper), 423 Broome
Seymour Mfg. Co. (brass and copper), 100 Chambers
Spiral Weld Tube Co. (steel), 43 John
Syracuse Tube Co. (boiler), 140 Centre
Wainwright Mfg. Co. of Mass. (corrugated copper and brass), 121 Liberty

Wallace & Sons (brass and copper), 29 Chambers
Waterbury Brass Co. (brass, copper and German silver), 296 Broadway

TURNERS.

American Bobbin Spool & Shuttle Co. 103 William

Anton, William, 9 Baxter
Baume, Julius, 314 E. 75th
Becherer's, Joseph, Son, 171 Suffolk
Bienz, Frederick, 155 E. 44th
Bozenhardt, Frederick, 502 E. 19th
Brutsche, Solomon, 328 W. 44th
Buhr, Francis, 324 W. 26th
Buhrenne, A. 46 W. 67th
Burton, W. S. 501 E. 70th
Conklin, A. R. 1140 Vanderbilt av
Delatron, George & Co. 9 Baxter
Dowers, Charles W. 186 W. Houston
Eckenroth, Francis & Son, 820 Fifth av
Estes, E. B. & Sons, 254 Pearl
Fishlowitz, H. 420 E. 30th
Fornan, Ralph, 6 Elm
Franke, Gustave, 30 So. Fifth av
Freidmann Jacob, 168 Essex
Frepp & Kempf, 177 Hester
Gregorius, Jacob, 129 Attorney
Greis, Peter, 180 Centre
Grote, F. & Co. 114 E. 14th
Haug, August, 258 W. 28th
Hayne, Louis, 11 Baxter
Huek, William & Co. 771 E. 165th
Kalenberg, F. J. Co. 211 to 229 E. 33d
Kirchner, August, 155 E. 128th
Kritzler, August, 13 Baxter
Kroder, John, 94 Clinton
Little, Charles E. 59 Fulton (pressed or turned wood ornaments) (see add p. 101)
Lohse & Borger, 50 Ann
McKenzie, John R. 492 E. 139th
Maifaith, A. 157 E. 88th
Martin, Oscar, 152 Prince
Mattes, Jacob B. 11 Baxter
Miller, Charles, 9 Baxter
Muller, John T. 511 W. 30th
National Keg & Box Co. 97 Water
Neu, Joseph. 199 Wooster
Neuberger, Frank, 311 Ave. B
Nowack, Frank, 128 So. Fifth av
Raiss, John D. 124 Elizabeth
Reed, S. E. 43 Park
Remmy, William T. r 92 Fulton
Rettig, George, 182 W. Houston

GEORGE RETTIG,

(Successor to Fr. Ehrhardt).

Fancy Turning and Spiral Work
PATTERN TURNING A SPECIALTY.

182-184 West Houston St.,
Near Bedford Street, NEW YORK.

Rubl, Matthias, 171 Suffolk
Schaefer, John & Son, 257 W. 27th
Scheerer & Gress, 148 Baxter
Schmid, Charles, 256 W. 28th

CHARLES SCHMID, WOOD TURNING,

Twisted and Roped Turnings
a Specialty.

256 West 28th Street, NEW YORK.

Schneider, John, 524 E. 134th
Schneider, Moritz, 11 Baxter
Shardlow, Joseph, 116 Fulton
Sintef's, F. Sons, 9 and 11 Baxter

F. SINTEF SONS, WOOD TURNERS,

Manufacturers of
BALLS, BUTTONS AND TASSEL MOULDS.

9 & 11 BAXTER STREET,

Near Chatham, NEW YORK.

Sinteff & Klumpp, 13 Baxter

SINTEFF & KLUMPP, TURNERS

And Manufacturers of
Balls, Tassels, Moulds and Buttons, Surgical Handles,
Push Buttons, Fishing Reels.

No. 13 BAXTER STREET.

Between Park Row and Worth St., NEW YORK.

Swift, F. Sons, 9-11 Baxter
Thomann, Francis A. 257 W. 27th

F. A. THOMANN, WOOD TURNING,

Newels, Balusters, Hand Rails and Twist. Roped and
Twisted Balusters of all Descriptions. Also, Circular and
Band Sawing. Jobbing Done at Short Notice.

No. 257 WEST 27th STREET,

Near Eighth Ave. Established 1850. NEW YORK.

Uebelacker, Christian, r 343 W. 37th
Vollmer, Matthias, 171 Suffolk
Weiss, Sigmund, 508 W. 24th
Wildman, Charles, 122 Elizabeth
Williams, Anton, 11 Baxter
Wollersen, Joseph, 262 W. 28th
Wunderle, Gerhard, 130 Worth
Zimmermann & Steiber, 9 Baxter

ZIMMERMANN & STEIBER, ROPE MOULDING,

Manufacturers of Plain and Fancy

9 & 11 BAXTER STREET,

Between Worth St. and Park Row, NEW YORK.

Turning, Twisting and Fluting of Newels and Balusters
a Specialty.

TURNING LATHES, WOOD AND METAL,

Little, Chas. E. 59 Fulton (see add p. 101)
Pollock, Alex. 15 Cortlandt
Pyribil, P. 512-524 W. 24th

TWINES.

Am. Net & Twine Co. 199 Fulton
 Arden & Co. 216 Fulton
 Bailey, John T. & Co. 419 Broome
 Bell, Thomas M. 24 Beekman
 Bentley & Gerwig, 83 Leonard
 Blackman, Oscar P. 59 Murray
 Brundage, Percy H. 419 Broome
 Cable Flax Mills, 113 Worth
 Carhardt, Frank, 113 Worth
 Corsari, Emil F. 46 Beekman
 Demarest & Joralemon, 103 Barclay
 Denilt, C. W. 113 Worth
 Dishrow, Hamilton T. 58 Warren
 Dishrow & Barberi, 58 Warren
 Elizabethport Cordage Co. 46 South
 Elsas, Kellar & Co. 158 Franklin
 Flood, Thomas, 416 E. 11th
 Gade, Henry, 349 Broome
 Gloucester Net & Twine Co. 77 South
 Glover, Lewis, 20 Cliff and 245 Pearl
 Greenfield, Wm. 1 Ave. C.
 Hart, A. H. Co. 90 White
 Hirsch & Fowl, 36 E. Houston
 Hobarth, Frank B. & Co. 92 White
 Jellin, Marcus, 46 Forsyth
 Johnson & Co. 3 Lispenard
 Kelly, Henry C. 548 Pearl
 Lawrence Cordage Works, 46 South
 Lees Mfg. Co. 1 Reade
 McKenna, T. H. 83 Leonard
 Nawrath, J. P. & Co. 2 Lispenard
 Pennover, Charles H. 216 Fulton
 Pioneer Twine Mills, 83 Leonard
 Reid, Alexander F. 149 Duane
 Ross, Turner & Co. 419 Broome
 Sampson Cordage Works, 115 Congress st. Boston
 Sans Souci Twine Mills, 349 Broome
 Thompson, James & Co. 129 W. Broadway
 Travers, J. P. & Son, 46 Beekman
 Travers Brothers, 107 Duane and 536 W. 52d
 U. S. Net & Twine Co. 219 Fulton
 Wall's, William, Sons, 113 Wall (see add p. 74)
 Waterbury, L. & Co. 132 Front
 Winnie, David P. 338 Broadway
 Wise, E. M. 679 Broadway

TYPE WRITING MACHINES.

American Writing Machine Co. 237 Broadway
 Barron, W. J. 200 Broadway
 Blikenstderfer Mfg. Co. 385 Broadway
 Browne, F. Lyman, 245 Broadway
 Bullock, Marion L. 63 Park row
 Burridge, Lee S. 205 Broadway
 Columbia Typewriter Mfg. Co. 379 Broadway
 Consolidated Typewriter Exchange, 245 Broadway
 Crandall Machine Co. 353 Broadway
 Densmore Typewriter Co. 202 Broadway
 Essex Typewriter Co. 137 Broadway
 Franklin Typewriter Co. 325 Broadway

Franklin Typewriter & Supply Co. 325 Broadway
 Hall, Thomas, 853 Broadway
 Hammond Typewriter Co. 77 Nassau
 Lanston Monotype Machine Co. 110 Fifth av
 Matrix Co. 111 Nassau
 Middleton, W. E. & Co. 280 Broadway
 Miner, Enoch N. 31 Broadway
 Odell Typewriter Co. 61 Park row
 People's Mfg. Co. 66 W. 23d
 Porter, H. G. & Co. 66 W. 23d
 Reed, Charles A. 353 Broadway
 Searing, Theo. W. 118 Lincoln av
 Smith, Lyman C. 293 Broadway
 Smith Premier Typewriter Co. 293 Broadway
 Underwood, John & Co. 39 Vesey
 Wyckoff, Seamans & Benedict, 327 Broadway
 Yost Writing Machine Co. 71 Broadway
 Young, Josiah L. 7 W. Broadway

TYPE WRITING MACHINE SUPPLIES.

Aeton, John, 193 Worth
 Autographic Register Co. 250 Canal
 Bailey, Frank W. 325 Broadway
 Barron, Walter J. 200 Broadway
 Chapin, Louis N. 30 Rose
 Cole, Robert M. 45 Broadway
 Consolidated Typewriter Exchange Co. 245 Broadway
 Excelsior Typewriter Ribbon Co. 147 Mulberry
 Gerber, Henry, 83 Nassau
 Hardie, Wm. C. 63 Park row
 Lowe, J. H. & P. D. 140 Maiden la
 Mittage & Volger, 83 William
 Morey, Ira E. 335 Broadway
 Mynderse, Aaron, 150 Nassau
 N. Y. Carbon & Transfer Paper Co. 51 Nassau
 Phinney, John A. 150 Nassau
 Rogers Manifold & Carbon Paper Co. 75 Maiden la
 Smith, Stephen T. 14 Park pl
 Smith & Schober, 237 Broadway
 Stringham, David H. 22 Vesey
 Tucker & Co. 51 Nassau
 Underwood, John & Co. 30 Vesey
 Vanhoren, Victor, 265 Broadway

ULTRAMARINE BLUE.

Consolidated Ultramarine Co. (Ltd.) 55 Maiden la
 Heller & Merz Co. 55 Maiden la
 International Ultramarine Works (Ltd.) 71-73 Duane
 Kolmstamm, H. & Co. 126 Chambers
 Zeutgraf, Charles F. 71 Duane

UPHOLSTERERS.

Ahstrom, Otto R. & Co. 1546 Broadway
 Aird, John, 358 Columbus av
 Amon, Charles A. 403 Sixth
 Anderson, Thomas, 1013 Third av
 Antony, Matthias, 2054 Seventh av
 Augstein, Peter, 1763 Park av
 Baas, Charles A. 646 Park av
 Baas, Hans A. 625 Columbus av
 Bacon, James G. 271 W. 12th
 Baecht, Frederick W. 1593 Broadway
 Ball, Henry, 115 Cedar
 Ballhausen, E. 206 E. 32d
 Baloch, Otto, 413 E. 15th
 Balser & Bischoff, 177 Third av
 Balze, August, 134 W. 17th
 Bartelmes, H. & Sons, 401 Eighth av
 Bartels, Pierre J. 324 Av. A
 Baruntz & Diehl, 143 Seventh av
 Bauer, Julius, 427 E. 14th
 Bause & Fechner, 538 Third av
 Beck, Jacob, 1787 Bathgate av
 Beck, Wm. 235 Sixth
 Beekman, Samuel L. 1112 Second av
 Behrens, Charles E. 189 E. 71st
 Bender, Phillip, 415 Fourth av
 Bergen, B. 3429 Third av
 Besant, Jacob, 387 Lenox av
 Beyer, Henry, 207 Fifth
 Binks, Giles A. 115 Fourth av
 Birnbaum, Nathan, 125 Attorney
 Bishopberger, Chas. A. 3429 Third av
 Bittney, Pierre, 110 Ninth av
 Black, Jacob, 430 E. 15th
 Blees, Nicholas, 146 W. 33d
 Blumenthal, A. 1157 Third av
 Boek, Wm. C. 829 Ninth av
 Boehm, Max, 113 Av. A
 Bohlmann, C. W. & Co. 99 Boulevard
 Bohnenkamp, Julius, 147 E. 22d
 Bonitz, Francis, 166 E. 120th
 Boos, Chas. 286 W. 127th
 Bornstein, Maurice, 237 E. 59th
 Bosshardt, Albert, 315 E. 56th
 Bouche, Henry L. MacIntyre bldg. 874 Broadway (see add p. 93)
 Brabant, Wm. M. 308 E. 55th
 Braeomer, Herman, 989 Washington av
 Braisil, Chas. 2088 Lexington av
 Brasch, Herman, 1805 Third av
 Brauneck, Christian, 244 E. 35th
 Brennan, John J. 527 First av
 Brucker, Eugene, 352 E. 82d
 Busch, John, 57 W. 18th
 Butze, T. 1082 Park av
 Buxbaum, Joseph, 252 Seventh av
 Cahn, F. 667 Sixth av
 Cahn, Leon, 655 Sixth av
 Cannon, John, 2674 Eighth av
 Clerey, Louis L. 604 Sixth av
 Cohen, Louis, 403 Ninth av
 Cohen, Louis, 57 Essex
 Cohen, Louis, 403-421 Ninth av
 Cole, R. J. 3055 Third av
 Condren, Bernard, Highbridge rd and Kingsbridge rd

Constans, Wm. 1374 Broadway
 Corvinus, Geo. 51 E. 112th
 Cullen, Mary J. 213 Ninth av
 Damm, Henry, 37 Clinton
 Danicke, R. 532 Hudson
 Dathe, Herman, 1990 Amsterdam av
 Davis, Bertram, 1613 Second av
 Deimling, Wm. 750½ E. 167th
 Demlein, John B. 1003 Park av
 Dennis, Benjamin, 100 W. 29th
 Deutsch, Henry, 288 Amsterdam av
 Dixon, Geo. A. 178 E. 110th
 Doehl & Embach Sons, 448 Sixth av
 Doerhofer, Conrad, 246 Columbus av
 Dorr, Christian, 319 W. 35th
 Douglass, Chas. H. 301 W. 127th
 Doupe, John, 65 E. 87th
 Dowling, John H. 941 Sixth av
 Dowling, Martin W. 271 Ninth av
 Duval, M. 111 Clinton pl
 Dyers, Henry H. Sons, 41 E. 20th
 Ebmeyer, John C. 982 Sixth av
 Eger, Frederick, 1614 First av
 Elliott, Matthew, 211 Eighth av
 Ellwanger, Jacob, 2422 Eighth av
 Emmons, Joseph L. 210 W. 37th
 Epple, G. & Son, 20 and 323 E. 22d
 Eppler, Albert, 2408 First av
 Erlwein, Geo. 250 E. 120th
 Eshenbach, C. L. 374 Park av
 Faerber, Franz, 1972 Amsterdam av
 Federhart, Albert, 2050 Seventh av
 Felberbaum & Klein, 206 E. 80th
 Ferrandi, Samuel, 851 Ninth av
 Fitzpatrick, Chas. 456 Fourth av
 Fluri Bros. 1793 Amsterdam av
 Flynn, Wm. 1068 Third av
 Foerber, J. G. 52 E. 30th
 Forbes, James, 303 W. 128th
 Foster, Charles A. 91 Greenwieh av
 Franklin, Phillip, 203 Bleecker
 Friday, W. F. 158½ Cherry
 Fried & Co. 3 First
 Friedlander, Max, 145 W. 24th
 Friedman, Jacob, 86 Norfolk
 Froeber, John G. 440 Fourth av
 Fromberger, G. 115 W. 15th
 Furth, Siegfried, 539 E. 84th
 Gaethke, Theo. 806 Seventh av
 Gumbel, Fred. 667 E. 153d
 Gastram, Paul, 1683 Park av
 Gaunane, James, 323 E. 31st
 Gehwiller, Louis, 1642 Amsterdam av
 Georgi, Louis, 152 E. 59th
 Gerger, August, 177 E. 75th
 Gerhards, Henry C. 1034 Second av
 Gernini, Joseph, 307 W. 38th
 Geschwinder, Conrad, jr. 223 E. 58th
 Geschwinder, N. J. 930 Second av
 Gluber & Taudler, 360 E. 57th
 Goeller, Chas. 963 Park av
 Goetz, A. & Co. 184 Columbus av
 Goldbeck, Peter, 3490 Third av
 Golden Bros. 34 E. 20th
 Goldsmith, Jos. 77 E. 109th
 Goldstein, J. 77 E. 109th
 Gommell, Fred. 75 W. 44th

Greve, Henry & Co. 22 E. 13th
 Grimm, Adolph F. 1904 Park av
 Grollmisch & Son, 2187 Seventh av
 Gropper, Alter, 116 Ludlow
 Grub, Henry, 179 Canal
 Haag, August, 1467 Av. A
 Haas, Frederick, 374 W. 46th
 Hachoff, Wm. 1426 Lexington av
 Hag, Jacob, 187 E. 115th
 Hagman, A. L. 160 Cherry
 Hartmann, Henry, 428 Fourth av
 Hasler, Adolph, 167 Orchard
 Hassenfiatz, William, 610 Sixth av
 Heine, B. 300 E. 49th
 Heine, Matthew, 2266 Seventh av
 Heintz, William, Sons, 952 Sixth av
 Heise & Kuhn, 1662 Park av
 Henderson, James, 206 Ninth av
 Henderson, Robert, 228 Seventh av
 Henne, Conrad M. 649 Amsterdam av
 Hennings, Charles, 1680 Third av
 Hennings, William, 307 E. 84th
 Henschel, Max, 1449 Third av
 Herb, John R. 930 Eighth av
 Hesselbach, Chas. L. 93 Lexington av
 Hessler & Moeclin, 632 Columbus av
 Hoffmann, Edward, 1768 Broadway
 Hoffstaeter, Ernest, 133 W. 46th
 Hofstatter, Theodore & Co. 818 Broadway and
 111 E. 11th
 Holbrook, Eber C. 821 Seventh av
 Honings, Francis, 1975 Third av
 Hornberger, J. 443 Willis av
 Huber, John, 757 Seventh av
 Hunsald, John, 894 Sixth av
 Hutchings, C. A. 35 E. 19th
 Immich Bros. 862 Sixth av
 Inelowitz, Jacob, 216 Madison
 Jackson, James, 699 Sixth av
 Jallade, E. 158 W. 49th
 Jemm, Emile, 287 Willis av
 Kaestner, William, 207 E. 106th
 Kalbreyer & Aeberle, Boulevard and W. 97th
 Kamerer, Paul, 340 Fourth av
 Kampf, Fred. P. 507 E. 16th
 Katz, Simon, 104 Norfolk
 Kent, William, 401 W. 27th
 Kiddie, Henry D. 656 Third av
 Kleinhaus, Henry, 201 Princee
 Kleisch, Chas. 54 Variek
 Kochling, B. 142 W. 30th
 Koech, Daniel, 58 E. 64th
 Kohlbecker, Fred. 118 E. 13th
 Konyn, Abraham, 59 W. 125th
 Kreielsheimer, Jacob, 2013 Third av
 Kruedelbach, B. 135 E. 44th
 Kruedelbach, H. & G. Wagner, 1836 Park av
 Krug, Maximillian, 202 Eighth
 Kuber, Charles, 992 Sixth av
 Kummer, W. H. 204 E. 62d
 Lahrheim, Jacob, 1302 Third av
 Lally, John & Son, 401 E. 16th
 Lamprecht, George H. 514 E. 120th
 Langschultz, Conrad, 338 Ninth av
 Laun & Sons, 30 W. 12th
 Lawrent, August, 1803 Third av
 Lax, Rosa, 413 E. 15th

Leblond, Eugene, 109 W. 27th
 Lebowitch, Louis, 34 Suffolk
 Leek, John, 106 W. 42d
 Ledeky, Otto, 2249 Seventh av
 Lederman, Daniel, 1929 Third av
 Lehman, H. 1125 Park av
 Leiner, Henry, 1004 Second av
 Levy, Signmund, 971 Second av
 Lewin, Samuel, 318 E. 73d
 Liebisch, P. 530 E. 11th
 Lies, Joseph A. 171 Columbus av
 Linderoos, Oscar, 122 E. 11th
 Lock, David G. 53 E. 130th
 Lock, Thomas J. 207 Lexington av
 Loeser, George C. 346 Sixth av
 Loewe, Ernst, 319 W. 41st
 Loewenstein, Herman, 119 E. 104th
 Loughlin, G. P. 323 Boulevard
 Lowry, J. 12 E. 125th
 Lugars, J. G. Son & Co. 302 Fourth av
 Lutz, Henry, 156 Ninth av
 McClusky, Daniel, 262 W. Houston
 McConkey, Charles, 684 Sixth av
 McHugh, Joseph P. & Co. 3 W. 42d
 McIntosh, John, 865 Park av
 Maas, Leopold, 236 E. 45th
 Madocks, David, 82 Sixth av
 Magrath, Henry, 195 Lexington av
 Manthaler, Herman L. 1324 Broadway
 Marsh, Henry, 149 E. 38th
 Matier, Alexander, 445 Fourth av
 May, Isador, 2290 Second av
 May, Julius, 360 Third av
 Merline, Joseph, 116 W. 42d, and 324 W.
 26th
 Metcalfe, Charles H. 300 W. 15th
 Meyer, Bernhard, 507 Columbus av
 Mignon, William, 1088 Park av
 Miller, David H. 145 E. 23d
 Miller, Louis & Son, 434 E. 58th
 Miller & Chessler, 161 Attorney
 Minz, Moses, 16 Ave. C
 Montgomery, Asa B. 741 Third av
 Morris & Coghill, 245 W. 31st
 Morris, J. D. & Co. 241 W. 29th
 Mounter, Sidney, 93 White
 Muhlig, Daniel, Kingsbridge and W. 227th
 Muller, G. 1908 Park av
 Munch & Rubencamp, 202 E. 46th
 Murphy, Patrick J. 649 Third av
 Musschl, R. 18 Eldridge
 Neppach, Albert, 733 Seventh av
 Neppel, Jacques L. 426 Third av
 Nerent, Bernard, 229 W. 35th
 Newman, Goodman, 93 Division
 Newoff, August, 146 W. 20th
 Nigg, Albert F. 127 W. 32d
 Nimmo, Charles W. 8 E. 60th
 Nissen, H. 1605 Ave. A
 Noe, Henry H. 339 W. 37th
 Nolan, Lawrence, 858 Eighth av
 Nowak, John, 149 E. 4th
 Ostman, C. R. & Co. 301 E. 29th
 Otto, Edward, 173 E. 91st
 Pape, W. & Bro. 1812 Park av
 Parcell, Henry, 11 Seventh av
 Parsont, Bernard, 2400 Second av

Paschke, William, 111 Clinton
 Passmore, Richard, 134 W. 20th
 Paul, William, 444 Park av
 Perschel, William, 337 E. 86th
 Piate, Arsene, 209½ Wooster
 Pichardt & Co. 348 Lenox av
 Poborshy, Louis, 936 Sixth av
 Pollak, Julius, 1238 Lexington av
 Preiser, J. & Co. 135 Rivington
 Preiss, Charles, 745 Ninth av
 Radeski, Leo, 53 Columbus av
 Rauffus, Charles, 759 Sixth av
 Rauffus, Ernest, 402 Sixth av
 Reed, George F (estate of) 102 Walker
 Reichert, R. 52 Oliver
 Rhein, Nathan, 2283 Eighth av
 Richel, William, 1138 First av
 Riehmann, Clemens, 301 E. 9th
 Robins, Thomas H. 629 Park av
 Robinson, Alfred, 977 Park av
 Roesel, Robert, 171 E. 33d
 Roller, Peter, 5 Bleecker
 Roos, John, 454 Fourth av
 Rose & Loeffler, 870 Lexington av
 Rosen, Louis, 105 Hester
 Rothberg, Nathan, 309 E. 35th
 Rudiger, August B. 522 First av
 Safft, Gustav, 70 W. 38th
 Sanders, Daniel J. 145 E. 17th
 Sandmeyer, William, 240 E. 20th
 Sauerwein, C. 847 Columbus av
 Sauter, John M. 1503 First av
 Schaedelbauer, Julius, 427 E. 14th
 Schaeffel, Bernard, 52 W. 19th
 Schellhase, John, 417 Fourth av
 Scherz, Charles & Co. 42 Franklin
 Schiller, Meyer, 439 E. 85th
 Schiller, Morris, 216 W. 36th
 Schirmer, Charles F. & Son, 181 Third av
 Schleider, Frank, 111 Eldridge
 Schlosser, S. 235 E. 75th
 Schmid, C. 68 W. 43d
 Schmidt, Gunther, 306 E. 27th
 Schmidt, Otto W. 147th and Eighth av
 Schmitt, Charles A. 107 E. 124th
 Schmitt, Christian, 113 W. 128th
 Schnabel, John, 1582 Broadway
 Schneider, Peter, 309 Hudson
 Schulte, C. C. 74 W. 55th
 Schultz, Chas. G. A. 604 Columbus av
 Schultz, Otto J. 820 Sixth av
 Schultze, Charles A. 132 W. 39th
 Schunke, Gustave, 853 Third av
 Schutle, Christian C. 74 W. 55th
 Schwalm, Ernest, 267 W. 19th
 Schwarzer, Herman C. 385 Lexington av
 Seebald, A. 1060 Third av

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 Senfert, Jacob, 209 E. 51st

Shea, Patrick, 358 Third av
 Silverman, Jacob, 66 Eldridge
 Singe, Edward E. 217 Columbus av
 Singer, Frank X. 303 E. 78th
 Singer, Mendel, r 38 Pitt and 191 Delancy
 Sinram, Charles, 2129 Third av
 Smith, J. R. 131 W. 124th
 Smith, W. Henry, 945 Broadway
 Smith & Covell, 128 W. 27th
 Spohn, Joseph & Son, 132 Eighth av
 Squire, F. 2056 Lexington av
 Stamm, Emma, 91 Canal
 Stein, Henry P. 954 Eighth av
 Steiner & Hirschfeld, 59 E. 59th
 Steinmetz, Thomas, 217 Amsterdam av
 Stemmler, William, 1050 Park av
 Stern, Moritz, 130 E. 32d
 Stiefel, Phillip, 117 Ave. C
 Stranch, William, r 226 W. 20th
 Strasser, August, 1219 Third av
 Stump, Daniel, 424 Seventh av
 Sturm, George, 116 Seventh av
 Taudler, Michael, 360 E. 57th
 Teller, Herman, 310 W. 40th
 Teller, Isaac, 300 W. 54th
 Thiry, Joseph, 1627 Broadway
 Thode, John H. 307 Boulevard
 Thorp, Edward, 344 Fourth av
 Timmermans, N. 130 W. Houston
 Trinz, Samuel, 568 Second av
 Trippel, Otto, 755 Tenth av
 Tritschler, Theo. 1299 Lexington av
 Tropea, N. 318 E. 73d
 Tuchfeld, Samuel, 44 Ave. B
 Ullmann, Louis H. 188½ Clinton
 Urban, Charles, 101 Mott
 Voos, Otto H. 710 Seventh av
 Votion, Alexander, 115 E. 17th
 Walzer, Rosa, 54 Ludlow
 Warren, J. L. & Son, 336 W. 125th
 Wassmuth, G. 203 W. 10th
 Watson, James G. 586 Seventh av
 Wedaski, Frank, 302 E. 70th
 Weigold, John G. 202 E. 38th
 Weill, A. L. 139 E. 113th

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 Weisberger, M. R. 389 E. Houston
 Weiss, Jacob, 2021 Lexington av
 Weiss, Michael, 588 Park av
 West, Charles H. & Son, 3 Abingdon sq
 Westphal, Charles, 215 E. 22d
 Whaley, William N. 404 Bleecker
 Wiehle, Reinhold, 32 E. 12th
 Wiesel, J. & A. Kushes, 368 Grand
 Wieting, Theodore B. 926 Sixth av
 Williams, Charles G. 145 W. 127th
 Wilmore & Boyden, 647 Sixth av

Winckelmann, Henry, 318 E. 70th
Winemeyer, 141 W. 19th
Wingert, Gustav, 2193 Seventh av
Wingert, W. 400 W. 19th
Wolf, Charles F. 1473 Broadway
Wood, John H. 33 Clinton pl
Wusmuth, G. 203 E. 10th
Zaher, Louis, 149 W. 30th
Zanker, Otto, 266 W. 41st
Zeppel, Wm. 100 E. 78th
Zimmerman, G. 711 Amsterdam av
Zink, Borgman & Co. 109 W. 84th
Zinns, B. H. Sons, 199 E. 17th
Zipfel, William, 100 E. 78th
Zuelich, H. 146 W. 17th

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American Pin Co. 424-426 Broadway
Berbecker, Julius & Co. 65 Duane
Carr, M. W. & Co. 419 Broadway
Elmann, Julius, 92 Chambers
Globe Curtain Pole Co. 242 Canal
Gould's, M. Son & Co. 105 Duane
Gould, Robert S. Co. The (brass) 261-263 Canal
Judd, H. L. & Co. 87 Chambers
Kroder, John, 255 Canal
Mackie-Lovejoy Mfg. Co. (nails) 2-4 Howard
Mersereau, W. T. & Co. (brass) 39 Union sq
Osborn, George R. 335 Broadway
Sargent & Co. 37 Chambers
Smeallie J. K. & Co. 227 Canal
Steele & Johnson Mfg. Co. (nails) 35 Howard
Turner & Seymour Mfg. Co. The, 325 Broadway
Wade Button Co. (tacks and nails) 207 Centre

UPHOLSTERERS' MATERIALS.

Abbot, Theodore, 56 Leonard
Adhesive Guimp Co. Ltd. 120 Walker
Am. Pin Co. 62 Walker
Bartmann & Co. 343 Broadway
Berbecker, Julius & Co. 65 Duane
Brooks, Geo. & Son, 343 Broadway
Bulkley, Archibald E. 42 E. 14th
Demott, J. G. 325 Broadway
Devling & Co. 251 W. 19th
Dreyfus Bros. 52 Lispenard
Fechtman, L. F. & Co. 183 Canal
Fielder, Alexander, 171 Canal
Filer, J. A. & Co. 71 University pl
Foster, Merriman & Co. 225 Canal
Frank, Joseph, 343 Broadway
Getman Bros. 61 W. 125th
Graham, J. C. & Co. 353 Broadway
Graham's, John, Sons, 524 W. 35th
Grossman, Martin J. 58 E. 13th
Hammacher, Schlemmer & Co. 209 Bowery
Hartmann, Herman, 47 Leonard
Haubner, Lucia D. 153 W. 46th
Hentze, Robert, 146 W. 25th
Hertzog, Paul F. 416 Broadway
Hobart, Frank B. & Co. 95 White

Hortsmann, Wm. H. & Sons, 106 Grand
Hyman & Meyers, 337 Broadway
Jaeger & Tinme, 413 Broome
Johnson, Thomas V. & Co. 227 Canal
Johnson & Faulkner, 35 E. 17th
Kahn, Meyer, 259 Canal
Kampmann & Meyer, 142 Grand
Kellogg & Bratton, 339 Bowery
Ketty, G. L. & Co. 869 Broadway
Lasek & Greenfogel, 169 Spring
Leiter, Isaac H. 210 Canal
Lindenthal, Leopold, 1400 Broadway
Lister & Co. Ltd. 55 White
Lobenstein, Sigmund, 414 Broadway
Lord, Haynes & Co. 137 Duane
McGibbon & Co. 913 Broadway
Mackie-Lovejoy Mfg. Co. 4 Howard
Muehsam, Edward, 2 Walker
Mulcare Bros. 123 Elm
Nordheim & Co. 22 Union sq
O'Brien, Maurice & Son, 30 W. 13th
Ohlweiler, Phillip, 78 E. 122d
Peerless Plush Mfg. Co. 413 Broome
Perrin, H. O. & Co. 398 Broome
Perrin & Hart, 205 Canal
Rasse, John, 97 Sixth av
Reshower, J. & Co. 79-81 Spring
Richie, R. J. & R. Co. 110 Worth
Richmond & Co. 127 Fifth av
Roos, Ed. Mfg. Co. 223 Canal
Ryer, J. B. Son & Co. 167 Canal
Salmon & Lumley, 13 Mercer
Saranac Silk Mills, 339 Broadway
Schmidt, Christian A. 343 Broadway
Schneider's, Peter, Sons & Co. 185 Canal
Schunnacher, Frederick, 935 Broadway
Solomon's, B. L. Sons, 29 Union sq
Stead & Miller, 115 Worth
Steincke & Farren, 90 White
Steuerwald & Moltz, 119 Spring
Stiffson, Samuel J. 72 W. 23d
Stroheim, J. & Son, 209 Canal
Stutz & Co. 229 Mercer
Taylor, John B. & Ellis, 246 Canal
Thomas & Harper, 345 Broadway
Thorp, J. H. & Co. 429 Broome
Wagner, Geo. D. 221 Canal
Watson, John W. 119 W. 38th
Weiden, Robert, 317 Bowery
Weinberg, C. & Co. 31 W. 23d
Westchester Mfg. Co. Ltd. 339 Broadway
Wight & Lackey, 353 Broadway
Williams, Phillip H. 72 W. 23d
Williams & Boutwell, 337 Broadway
Young, Chas. B. & Co. 86 Worth
Zeigel, Michaelis H. 277 Sixth av
Zimmerman, Catharine, 711 Amsterdam av

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Manufacturer of

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O'Brien, Maurice, 30-32 W. 13th
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Aller, A. 109 Liberty
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Manufacturer of

NIAGARA STEAM PUMP,

For Every Possible Duty.

THE PACKARD VACUUM PUMPS.

93 to 97 Pearl St., Brooklyn.

VALVE AND GATE MFRS.

Arthur Co. The, 86 John
Ashton Valve Co. The (safety and water relief),
167 Liberty
Backus, Peter & Son, 133-135 W. 25th (see add
p. 64)
Barker, Jos. S. 168 Centre
Bigelow Co. The, 15 Cortlandt
Bonner & Van Court, 433-435 W. 42d
Carr, A. & W. S. Co. 138-140 Centre
Crosby Steam Gauge & Valve Co. (valve), 66
John
Dame & Townsend Co. 76 John
Detroit Heating & Lighting Co. 126 Liberty
(see add p. 144)
Eaton, Cole & Burnham Co. 82-84 Fulton
Fairbanks & Co. 311 Broadway
Foster Engineering Co. (safety check valve),
81-83 Fulton
Fox, John, 160 Broadway
Gillis & Geoghegan, 33 S. Fifth av
Gregory, James, jr. 106 Cannon
Haage, Frederick, 79 Rivington
Hanson, Thomas, 174 Centre
Haydenville Mfg. Co. 73 Beekman
Hogan Engineering Co. 66 Duane
Holly Mfg. Co. The, 45 Broadway
Jamer, Jacob, 84 John
Jenkins Bros. 71 John
Johnson, Henry F. 1 Desbrosses
Kennedy Valve Mfg. Co. The, 52 Cliff

THE

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Factory, Coxsackie, N. Y. Telephone, Cortlandt 267.

Kieley, Timothy, 11 W. 13th
Leng's, John S. Son & Co. (quick opening gate
valve), 4 Fletcher
McLean, John, 298-300 Monroe
McMann, T. R. & Bro. 56-60 Gold
McNab & Harlin Mfg. Co. 56 John

McShane, Henry, Mfg. Co. 625-627 Sixth av
(see add p. 108)
Mason Mfg. Co. 71 Beekman
Mellert Foundry & Machine Co. Ltd. (stop
valves) 160 Broadway
Morrison, David, 55 W. 16th
Pancoast & Rogers, 28 Platt
Peck Bros. & Co. 47 Cliff
Ransom & Co. (jobbers), 94-96 Centre
Reynolds, M. & Co. 25 Centre
Sands Bros. 6 Reade
Shaefer Safety Valve Co. 530 W. 57th
Smith, H. B. Co. The (automatic air valve for
steam radiators), 137 Centre
Stebbins, E. Mfg. Co. 64-66 Centre
Stone, Fred. & Co. (mfrs. agt.), 62 Gold
Walworth Mfg. Co. 54 Gold
Watson & Stillman (hydraulic), 204 E. 43d (see
add opposite p. 326)

VALVES, AIR, AUTOMATIC.

Aller, A. 109 Liberty
Blackmore Heating Co. 88 John (see add p. 66)
Blake & Williams, 197 Wooster (see add p. 65)
Bonner & Van Court, 433-435 W. 42d
Detroit Heating & Lighting Co. 126 Liberty (see
add p. 144)
Griffing, A. A. Iron Co. 106 Liberty
McShane, Henry, Mfg. Co. 625-627 Sixth av
(see add p. 108)
Roberts, Geo. I. & Bros. 471-473 Fourth av (see
add pp. 62, 63)
Sturtevant, B. F. Co. 91 Liberty

VALVES, RADIATOR.

Aller, A. 109 Liberty
American Radiator Co. 92 Liberty, Judson A.
Goodrich, mgr
Backus, Peter & Son, 133-135 W. 25th (see add
p. 64)
Blackmore Heating Co. 88 John (see add p. 66)
Blake & Williams, 197 Wooster (see add p. 65)
Bonner & Van Court, 433-435 W. 42d
Detroit Heating & Lighting Co. 126 Liberty
(see add p. 144)
Griffing, A. A. 106 Liberty
McShane, Henry, Mfg. Co. 625-627 Sixth av
(see add p. 108)
Roberts, Geo. I. & Bros. 471-473 Fourth av. (see
add pp. 62-63)

VALVES, SAFETY.

Aller, A. 109 Liberty
Ashcroft Mfg. Co. 111 Liberty
Blackmore Heating Co. 88 John (see add p. 66)
Blake & Williams, 197 Wooster (see add p. 65)
Bonner & Van Court, 433-435 W. 42d
Consolidated Safety Valve Co. 111 Liberty
Eaton, Cole & Burnham, 82 Fulton
Jenkins Bros. 71 John

Varnish Cans, Tanks, &c.—Varnish Makers

McShane, Henry, Mfg. Co. 625-627 Sixth av
(see add p. 108)
Roberts, Geo. I. & Bros. 471-473 Fourth av (see
add pp. 62-63)

VALVES, SPRINKLER.

Bonner & Van Court, 433-435 W. 42d
Ferrell's Indicating Valve Mfg. Co. 112 Liberty
Graham, John H. & Co. 113 Chambers
Quinn, W. H. & Co. 103 Chambers
Roberts, Geo. I. & Bros. 471-473 Fourth av (see
add pp. 62, 63)

VARNISH CANS, TANKS, &c.

Avery, Henry W. 310 Front
Schott, Louis, 366 E. Houston

LOUIS SCHOTT,**Manufacturer of Varnish Cans.****TANKS & VARNISH FACTORY SUPPLIES.**

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Alden, George A. & Co. 229 Pearl
Anwell, Lewis C. 58 Front
Behlen & Schlegel, 252 Pearl
Berry Brothers, 252 Pearl
Billings, King & Co. 438 Pearl
Bolen, Bond & James Co. 29 Broadway
Brooks, Clarence & Co. 403 W. 12th
Cahman, Emil & Co. 299 Pearl
Carter, Charles W. H. 26 Rose
Celleoud, Zapon Co. 41 Barclay
Collins Varnish Co. 174 Front
Crocket, David B. Co. 84 William
Devoc, F. W. & Co. 103 Fulton (see add p. 90)
Dunham, Thomas C. 68 Murray
Egyptian Mfg. Co. 132 Maiden la
Excelsior Varnish Works, 381 Pearl
Gillespie, Chas. H. & Sons, 74 Cortlandt
Gillespie, Louis C. 8 Fletcher
Glidden & Joy Varnish Co. 99 Maiden la
Graves, N. Z. & Co. 105 John
Harland, W. & Son, 4 Gold
Hildreth Varnish Co. 18 Broadway
Hooper, Alfred, 252 Pearl
Hotoff & Co. 467 Canal
Howell, Charles H. 79 Maiden la
Isley, Doubleday & Co. 229 Front
Marx & Rawelle, 163 William
Max & Co. 35 Beaver and 152 Prince
Mayer & Loewenstein, 80 Beekman

Established 1816.

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Minett & Co. 60 Pearl
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Parker Shellac and Varnish Co. 121 Front
Perrin, Payson & Co. 75 Little W. 12th
Pierce, F. O. & Co. 170 Fulton
Poillon & Staples, E. 148th c Railroad av
Pomeroy & Fischer, 30 Frankfort
Pratt & Lambert, 47 John, 5 Dutch
Reed, Charles C. & Co. 112 E. 14th
Rogers & Pyatt, 80 Maiden la
Schwartz, E. H. & Co. 23 Av. A (see add p.
106)
Smith, Edward & Co. 147 Times bldg
Standard Varnish Works, 731-733 E. 13th
Stoeckel, J. R. 35 Dey
The Bridgeport Wood Finishing Co. 240 Pearl
The Glidden & Joy Varnish Co. 99 Maiden la
Thibaut, E. A. & Co. 163 Pearl
Valentine, Lawson Co. 142-144 Times bldg
Valentine & Co. 57 Broadway
Watts, De Golyer Co. 311 Amsterdam av
Wernmouth, Herman, 410 Pearl
Wood, George L. & Son, 246 Pearl
Zinsser, William & Co. 197 William, 509 W.
58th

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ISHERS.**

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OF FINE WOOD WORK.

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Guenzel, Arthur, r 118 E. 13th
Haeberle, Louis, 164 Mulberry
Hauser, John R. 908 E. 149th
Heitner, W. r 410 E. 23d
Hiller, G. H. 152-154 Prince

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Janowinski, A. 1323 Broadway
Lawrence, Edward, 220 W. 29th
Leining, George F. 209 E. 19th
Lewis, Joseph C. 105 W. 57th
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Roddy, John S. 1760 Broadway
Schmitt, George, 1325 Broadway
Seebald, A. 1060 Third av
Sulzer, Charles L. 101 E. 30th
Waleott, E. 826 Pearl
Walling, Wm. D. 16 E. 13th
Walls, Alexander, 283 W. Houston
Weissenael, Godfrey, 150 E. 23d
Zehner, Joseph, 1158 Third av

VASES, FOUNTAINS AND STATUARY.

Fiske, J. W. 39 Park pl
Mott, J. L. Iron Works, 88 Beekman
Power, Maurice J. 218 E. 25th
Westervelt, A. B. & W. T. 102 Chambers (see
add p. 203)

VAULT AND SIDEWALK LIGHTS.

Dale Tile Mfg. Co. Ltd. 398 Broome (see add
p. 49)
French, J. C. & Son, 452 Canal (see add p. 47)
Langill, T. W. 406 W. 17th
Lindsay, W. A. 61 Warren
Mark, Jacob, 7 Worth

JACOB MARK,

Manufacturer of

Concrete Illuminating Tile

And all Kinds of Vault Lights for Areas, Roofs,
Floors, Etc.

7 WORTH STREET, NEW YORK.

See Advertisement, page 30.

Marren's Joseph, Sons, 157 E. 44th
Muhl, J. & Son, 329 E. 33d (see add p. 50)
Owens, Alexander & Co. 71 King
Prince & Kinkel Iron Works, 729-731 First av
(see add p. 51)
Tice & Jacobs, 510 Pearl

TICE & JACOBS,

MANUFACTURERS OF

Jacobs' Patent Concrete Lights, 510 PEARL STREET, N. Y.

All Kinds of Patent Lights for Sidewalks, Roofs,
Floors, Etc. Telephone, 211 Cortlandt.

See Advertisement, page 32.

VAULT COVERS.

Dale Tile Mfg. Co. Ltd. 398 Broome (see add
p. 49)
French, J. C. & Son, 452 Canal (see add p. 47)
Lyon, W. E. 202 E. 46th (see add p. 46)
Mark, Jacob, 7 Worth (see add p. 30)
Marren's, Joseph, Sons, 157 E. 44th
Prince & Kinkel Iron Works, 729-731 First av
(see add p. 51)
Tice & Jacobs, 510 Pearl (see add p. 32)

VAULT DOORS.

Dale Tile Mfg. Co. Ltd. 398 Broome (see add
p. 49)
French, J. C. & Son, 452 Canal (see add p. 47)
Lyon, W. E. 202 E. 46th (see add p. 46)
Marren's, Jos. Sons, 157 E. 44th
Mark, Jacob; 7 Worth (see add p. 30)
Prince & Kinkel Iron Works, 729-731 First av
(see add p. 51)
Tice & Jacobs, 510 Pearl (see add p. 32)

VAULT DOOR GUARDS.

Howard & Morse, 45 Fulton (see add p. 5)

VAULT LIGHTS AND VEN- TILATORS.

Dale Tile Mfg. Co. Ltd. 398 Broome

DALE TILE M'F'G CO., LIMITED,

Manufacturers of

Dale's Patent Concrete Illuminating Tiling

For Vault, Area, Side-Walk, Floor and Roof Lights.
Wrought Iron Illuminating Doors. Vault Covers. Every
Description of Vault Lights.

398 BROOME STREET, NEW YORK.

See Advertisement, page 49.

French, J. C. & Son, 452 Canal (see add p. 47)
Langill, T. W. 406 W. 17th
Lindsay, W. A. 61 Warren
Lyon, W. E. 202 E. 46th (see add p. 46)
Mark, Jacob, 7 Worth (see add p. 30)
Muhl, J. & Son, 329 E. 33d (see add p. 50)
Owens, Alexander & Co. 218 Hudson
Prince & Kinkel Iron Works, 729-731 First av
(see add p. 51)
Tice & Jacobs, 510 Pearl (see add p. 32)

VAULTS, BANK.

Butler, W. H. 79 Duane
Cornell, J. B. & J. M. 141 Centre, 26th st. bet.
10th and 11th avs (see add pp. 35, 37, 39)
Dale Tile Mfg. Co. Ltd. 398 Broome (see add
p. 49)
Hall's Safe & Lock Co. 324 Broadway

Veneered Panel Stock.—Veneers, Interior Decorations.—Venetian Blinds.—Venetian Blinds, English.—Venetian Blinds, Patent Metallic.—Ventilator Cord.

Hecla Arch. Iron Works, Poulson & Eger, World bldg, show rooms, 49-51 (see add p. 28)

Herring & Co. 251 Broadway
Jackson, Arch. Iron Works, 315 E. 28th (see add p. 31)

Lyons, W. E. 202 E. 46th (see add p. 46)
Marren's, Jos. Sons, 157 E. 44th
Marvin Safe Co. 265 Broadway
Muhl, J. & Son, 329 E. 33d (see add p. 50)
Yale Safe & Iron Co. 331 Madison av

VENEER LUMBER, IMPORTERS.

Albro, E. D. The, 176-200 Lewis (see add p. 95)
Marshall, W. L. 625 W. 29th

WILLIAM L. MARSHALL,
DIRECT IMPORTER OF ALL FANCY WOODS,
625 WEST 29th STREET.
ENGLISH OAK
A SPECIALTY.

VENEERED PANEL STOCK.

Albro, E. D. Co. The, 196-200 Lewis

The E. D. ALBRO CO.,

Importers and Manufacturers.

ARCHITECTS' and BUILDERS'
Supplies in Foreign and Domestic

Hardwoods, Veneers, Thin Stock, &c.

Eastern Branch,

196-200 Lewis St., New York, Foot of E. 6th St

See Advertisement, page 95.

VENEERS, INTERIOR DECORATIONS.

Albright, Samuel J. 204 Centre

Albro, E. D. & Co. The, 196-200 Lewis (see add p. 95)

Astoria Veneer Mills, 120 E. 13th

Auffermann & Co. 211 E. 42d

Bonneau, Wrightman & Co. 147 Baxter

Cole, Isaac I. & Son. ft. 8th. E.

Copcutt, J. & Co. 440 Washington

Kassing, Frederick, 156-162 Elizabeth

Kertscher & Co. 528-532 W. 24th

Marshall, Wm. L. 625 W. 29th

Scheina, Joseph, 115-121 E. 13th

Sperry, John, Mfg. Co. 333 Hudson

VENETIAN BLINDS.

Albany Venetian Blinds, Wm. G. Orr, manager, 150 Broadway
Bradley & Conover Co. 308 Hudson

Burlington Venetian Blind Co. 95 Nassau
Clark, Bunnett & Co. 162-164 W. 27th (see add p. 45)

Keogh, C. B. & Co. 6-8 Howard

Kertscher & Co. 528-532 W. 24th

Morstatt & Son, 227 W. 29th

Orr, Wm. G. 150 Broadway

Pirsson, F. M. Lincoln bldg. 1-3 Union sq, c. 14th

Venetian Blind Co. World bldg. room 61

VENETIAN BLIND COMPANY,

Hill's Patent Inside Sliding Blinds.

Also Improved English and American "Venetian Blinds" in any Desired Wood, Beautifully Finished.

New York Office, **World Building**, 61-65 Park Row.

Room 61. Phone, 1597 Cortlandt.

Brooklyn Office, 16 Court St. Phone, 735 Brooklyn.

See Advertisement, page 87.

Wilson, James G. 74 W. 23d (see add p. 88)

VENETIAN BLINDS, ENGLISH.

Bradley & Currier Co. 308 Hudson

Clark, Bunnett & Co. 162-164 W. 27th (see add p. 45)

Keogh, C. B. Mfg. Co. 6-8 Howard

Venetian Blind Co. World bldg. room 91 (see add p. 87)

Wilson, James G. 74 W. 23d (see add p. 88)

VENETIAN BLINDS, PATENT METALLIC.

Clark, Bunnett & Co. 162-164 W. 27th (see add p. 45)

Venetian Blind Co. World bldg. room 91 (see add p. 87)

Wilson, James G. 74 W. 23d (see add p. 88)

VENTILATOR CORD.

Elizabeth Cordage Co. 46 South

Hobart, Frank B. & Co. 92 White

Lawrence Cordage Works, 46 South

Morrell, J. B. & Co. 75 Front

National Cordage Co. 135 Front

Sampson Cordage Works, Boston, Mass.

Travers, J. P. & Son, 46 Beekman

Wall's, Wm. Sons, 113 Wall and 56 South (see add p. 74)

VENTILATOR MFRS.

Baker, Smith & Co. 81 W. Houston

Bartlett, Hayward & Co. 94 Centre

Bayles, H. H. 106 South

Ventilators and Conservatories.—Ventilators, Metallic Ventilators, Registers, Etc.,

Warm Air.—Ventilating Apparatus.

Bickelhaupt, George, 243-245 W. 47th (see add p. 6)
 Blackmore Heating Co. 88 John (see add p. 66)
 Blake & Williams, 197 Wooster (see add p. 65)
 Bracher Ventilator Co. 153 Fulton
 Braine, L. F. 115 Broadway
 Burger, Alvis, 32 Clinton pl
 Conran, W. F. 305 Pearl (see add p. 496)
 Creamer, W. G. & Co. 96 John
 Davies, James R. (agt.) 13 Park row
 Dumond & Co. 38 Cortlandt
 Dulong, Julius, 128 Pearl
 Frentels, A. Son (iron) 147 Elm
 Gillis & Geoghegan, 33 S. Fifth av
 Gouge Heating & Ventilating Co. 47 Eeckman
 Graves, Frank, 163 Pearl
 Griffing, A. A. Iron Co. 106 Liberty
 Green, Henry H. 63 Park row
 Hayes, George (metallic) 71 Eighth av (see add p. 8)
 Hitchings & Co. 233 Mercer
 Howard & Morse, 45 Fulton (see add p. 5)
 Hummel, James H. 153 Fulton
 Hyslop, John, 206-208 E. 29th
 Langill, T. W. 404 W. 17th
 Lane, Ira G. 207 E. 64th
 Leonard & McCoy, 118 Liberty
 McMurray, Robert T. & Bro. 141 Centre (see add p. 25)
 Mayer, Oscar, 27 Fulton
 Merchant & Co. 247 Pearl
 Moe, Ira, 9 South
 Nason Mfg. Co. 71 Beekman
 Nugent, Thomas, 214 E. 80th
 N. Y. Ventilating Co. 17 Broadway
 Phillips, E. Y. 28 Cliff
 Protective Ventilator Co. 153 Fulton
 Rieffel, Paul, 504 W. 24th
 Spofford, Charles, 312-314 E. 22d
 Stewart, George, 1389 Broadway
 Sturtevant, B. F. 91 Liberty
 Tuttle & Bailey Mfg. Co. 83 Beekman
 United States Ventilator Co. 45 Broadway
 United States Lighting & Ventilating Co. 24 W. 4th
 Weathered's, Thomas W. Sons, 24 Canal (see add p. 65)
 Westinghouse, Church, Kerr & Co. 17 Cortlandt
 Williams, Francis A. 197 Wooster (see add p. 65)
 Wing, L. J. Co. 126 Liberty (see add opp. Eighth Ward)

VENTILATOR POWER, ELECTRIC.

Blackall, F. S. 126 Liberty

F. S. BLACKALL,**126 LIBERTY STREET, NEW YORK.**

ELECTRIC FANS & EXHAUST WHEELS.

Sole Agent for N. Y. City and Vicinity,

CROOKER-WHEELER ELECTRIC CO.*See Advertisement, opposite page 327.*

Howard & Morse, 45 Fulton (see add p. 5)
 Wing, L. J. Co. 126 Liberty (see add opposite Eighth Ward)

VENTILATORS AND CON- SERVATORIES.

Bickelhaupt, George, 243-245 W. 47th (see add p. 6)
 Ottiwell, John D. 199 Third av
 The Plenty Horticultural & Sky-Light Works, Central bldg. 143 Liberty

VENTILATORS, METALLIC VENTILATORS, REGIS- TERS, ETC., WARM AIR.

Blackmore Heating Co. 88 John (see add p. 66)
 Boynton Furnace Co. 207-211 Water
 Bracher Ventilator Co. 153 Fulton
 Creamer, W. G. & Co. 96 John
 Excelsior Mfg. Co. 13 Park row
 Griffing, A. A. Iron Co. 106 Liberty
 Howard & Morse, 45 Fulton (see add p. 5)
 Richardson & Boynton Co. 232 Water
 Simonds Mfg. Co. The, 50 Cliff
 Tuttle & Bailey Mfg. Co. 83 Beekman

VENTILATING APPA- RATUS.

American Radiator Co. 92 Centre, Judson A. Godrich, manager
 Backus, Peter & Son, 133-135 W. 25th (see add p. 64)
 Blackall, F. S. 126 Liberty (see add opposite p. 327)
 Blackmore Heating Co. 88 John (see add p. 66)
 Boltuns, G. & J. R. Imp. Hot Water Heater, 114 Liberty, Geo. H. Raymond, manager (see add p. 69)
 Boynton Furnace Co. 207, 209 and 211 Water
 Griffing, A. A. Iron Co. 106 Liberty
 Howard & Morse, 45 Fulton (see add p. 5)
 Hummel, James H. 153 Fulton
 Mayer, Oscar, 27 Fulton
 Murphy, Geo. M. 43 New Chambers and 2 Madison
 Ottiwell, John D. 199 Third av
 Schwoerer, J. 8 E. 2d (see add p. 142)
 Wing, J. L. Co. 126 Liberty (see add opposite Eighth Ward)

VENTILATING FANS.

Backus, Peter & Son, 133 135 W. 25th (see add p. 64)

Ventilating Fans, Eng. Connected.] 603 [Wainscoting, Dec. Wood Work.

Ventilating Lens.—Ventilating Traps.—Vertical Engines.—Vise Manufacturers.—Vulcanite
Emery Wheels.—Vulcanized Rubber Fabrics.—Vulcanizing, Wood.—Wainscoting,
Artificial Marble.

Blackall, F. S. 126 Liberty (see add opposite p. 327)
Blackmore Heating Co. 88 John (see add p. 66)
Blake & Williams, 197 Wooster (see add p. 65)
Donegan & Swift, 11 Murray
Howard & Morse, 45 Fulton (see add p. 5)
Hummel, James H. 153 Fulton
McLeod, Ward & Co. 91 Liberty
Nason Mfg. Co. 71 Beekman
Protective Ventilator Co. 153 Fulton
Roberts, George I. & Bros. 471-473 Fourth av
(see add pp. 62, 63)
Sanitary Ventilating & Engineering Co. 1479
Broadway
Sturtevant, B. F. Co. 91 Liberty
Wing, L. J. Co. 126 Liberty (see add opposite
Eighth Ward)

**VENTILATING FANS,
ENGINE CONNECTED.**

Blackmore Heating Co. 88 John (see add p. 66)
Howard & Morse, 45 Fulton (see add p. 5)
Pollock, Alexander, 15 Cortlandt
Sturtevant, B. F. Co. 91 Liberty
Wing, L. J. Co. 126 Liberty (see add opposite
Eighth Ward)

VENTILATING LENS..

Dale Tile Mfg. Co. Ltd. 398 Broome (see add
p. 49)
French, J. C. & Son, 452 Canal (see add p. 47)
Mark, Jacob, 7 Worth (see add p. 30)
Tice & Jacobs, 510 Pearl (see add p. 32)

VENTILATING TRAPS.

Schwoerer, J. 8 E. 2d (see add p. 142)

VERTICAL ENGINES.

Aller, A. 109 Liberty
Beggs, James & Co. 9 Dey
Donegan & Swift, 11 Murray
Fitchburg Steam Engine Co. 46 Cortlandt
Globe Machine Co. 35 Broadway
Lathrop Co. 80 John
Leffel, James & Co. 110 Liberty
N. Y. Safety Steam Power Co. 30 Cortlandt
Payne, B. W. & Sons, 45 Dey (see add p. 54)
Pollock, Alexander, 15 Cortlandt

WISE MFRS.

Armstrong Mfg. Co. (gas and steam fitters) 242
Canal
Boker, Herman & Co. 101-103 Duane

Dame & Townsend Co. 76 John
Donegan & Swift, 11 Murray
Eaton, Cole & Burnham Co. (gas and steam fit-
ters') 82-84 Fulton
Joel, Samuel (jewelers') 156 Third av
Keller Mfg. Co. (pipe) 117 Walker
McNab & Harlin Mfg. Co. (pipe) 56 John
Miller's Falls Co. 93 Reade
Moore, G. T. 112 Chambers
Parker, Charles Co. The, 97 Chambers
Prentiss Vise Co. 44 Barclay
Sargent & Co. 37 Chambers
Stephens, Melvin, 41 Dey
Tower & Lyon, 95 Chambers, 77 Reade

**VULCANITE EMERY
WHEELS.**

New York Belting & Packing Co. 15 Park row
(see add front inside cover)

**VULCANIZED RUBBER
FABRICS.**

Boston Belting Co. 100 Chambers
Gutta Percha & Rubber Mfg. Co. 35 Warren
Mineralized Rubber Co. 18 Cliff
New York Belting & Packing Co. 15 Park row
(see add front inside cover)
Revere Rubber Co. 64 Reade

VULCANIZING, WOOD.

The Haskins Wood Vulcanizing Co. General
Office, 40 Wall; Works, 19th and E. River
and 155th st. and Eighth av

**WAINSCOTING, ARTIFI-
CIAL MARBLE.**

Aeschlimann & Pellarin, 231 E. 28th
Batterson, See & Eisele, 431 Eleventh
av
Davidson Sons Marble Co. Eleventh av
and 27th (see add p. 123)
Fisher, Robert C. 97 to 103 E. Houston
Italian Marble Mosaic Co. 412 E. 23d
Mycenian Marble Co. 523-533 W. 59th
(see add opposite p. 200)
North American Pyrogranite Co. 52 W.
15th

**WAINSCOTING, DECORA-
TIVE WOOD WORK.**

Black, R. D. 155 E. 128th
Black & Co. 16 Horatio

Boughton & Terwilliger (Fifth Av. Hotel) 23d st. and Fifth av.
 Bradley & Currier Co. 308 Hudson
 Brown, George & Clifford, 16 E. 14th
 Campbell Sash Door & Moulding Co. 42 E. 146th
 Chesley, William P. Central Building, 143 Liberty
 Christman, Geo. B. 1210 Second av.
 Ellin. Kitson & Co. foot 25th and N. R.
 Fischer, Schroder & Co. 105 W. 42d
 Gray, Jenks & Co. Lincoln bldg. 1-3 Union sq c. 14th
 Hall & Garrison, 32 Warren
 Hamilton, John L. & Sons, 347 W. 26th
 Hannam, William & Co. 23 Union sq.
 Hayden Furniture Co. 1 W. 34th
 Herter Brothers, 20th st and Fifth av No. 154
 Kertscher & Co. 528 to 532 W. 24th
 Kilian Bros. 157 W. 32d
 Kirtland & Andrews, 46-48 Union sq c. 17th st. (see add p.)
 Koch, G. W. 168 W. 34th
 Mandeville, H. & Son, 213 W. 47th
 Mertz, Geo. Sons, Portchester, N. Y. (see add pp. 98-99)
 Mitchell, D. 155 E. 44th (see add p. 142)
 National Wood Mfg. Co. 129 Fifth av
 N. Y. Flexible Wood Flooring Co. 17 W. 42d (see add p. 92)
 N. Y. Lumber Wood Working Co. 173 Broadway
 Parker, Edwin C. 157 Eleventh av. (see add p. 100)
 Pottier, Styms & Co. 375 Lexington av
 Prince & Muir, 310 E. 95th
 Pyrogravure Wood Co. 236 E. 37th (see add pp. 96-97)
 Radley & Greenough, 502 E. 74th (see add p. 92)
 Ransom, C. S. & Co. 10 W. 28th (see add opposite Fourth Ward)
 Schaeffler, F. 245-247 W. 28th
 Shastey, George A. & Co. 53d st. and Broadway
 Smith, B. & B. 220 W. 29th
 Stout, James N. 74 W. 23d
 White, Potter & Paige, 18 E. 17th

WAINSCOTING, MARBLE.

Aeschlimann & Pellarin, 231 E. 28th
 Bailie, H. C. & G. S. 304 E. 22d
 Bailie, S. & Son, 208 E. 23d
 Batterson, See & Eisele, 431 Eleventh av
 Berini, Joseph & Co. 204 W. 15th
 Brahm, John, 209 W. 50th
 Buess & Co. 105 Rivington
 Conover, J. S. & Co. 28-30 W. 23d (see add p. 85)
 Davidson Sons Marble Co. 27th st. & 11th av (see add p. 123)
 Dimond, John, 218 W. 42d
 Egan & Halley, 318 E. 23d

Ellin Ketson & Co. foot 25th and N. R.
 Eschman & Co. 211 E. 22d
 Fauchere, L. 211 E. 22d
 Fritsche, Emile, 517 W. 20th
 Heany, John, 331 E. 92d
 Holland, William, 167 E. 120th
 Italian Marble Mosaic Co. 412-416 E. 23d
 Klaber, A. 238 E. 57th
 Klaber, S. & Co. 47 W. 42d
 Krulisa, J. 556-566 Cherry
 Livingston, James, 205 E. 64th
 Macray & Bro. 558-560 W. 43d (see add p. 126)
 Maxwell & Dempsey, 277 Cherry
 Mycenian Marble Co. 523-533 W. 59th (see add opposite p. 200)
 Plock, Charles & Co. 511-513 W. 22d
 Saffer & Son, 211 E. 22d
 Sonius, P. C. & Son, 330 E. 23d
 Theiss & Jausen, 413 E. 25th (see add p. 127)
 Veith, Martin, 313 E. 71st
 Volkening & Co. 232 E. 44th
 Woehr, Adam, 984 Ninth av

WAINSCOTING, STEREO RELIEF.

Stereo Relief Mfg. Co. 229-233 E. 41st

WAINSCOTING, TILING.

Aeschlimann & Pellarin, 231 E. 28th
 American Encaustic Tiling Co. (Ltd.) 140 W. 23d (see add p. 76)
 Batterson, See & Eisele, 431 Eleventh av.
 Boote, A. 1567 Broadway
 Conover, J. S. & Co. 28-30 W. 23d (see add p. 85)
 Davis, Reid & Alexander, 18 E. 15th
 Fleming Cement & Brick Co. 23 Liberty
 Jackson's, W. Sons, 268 Water
 Jacksons, W. Sons, 268 Water
 Kirtland, Andrews & Co. (Ltd.) 46-48 Union sq c. 17th and Fourth av (see add p. 83)
 Klaber, A. 238 E. 57th
 Klaber, S. & Co. 47 W. 42d
 Menlo Park Ceramic Works, Jere. T. Smith, prop. office and showrooms, 23d and Madison av (see add p. 131)
 Mercereau, W. T. & Co. 39 Union sq
 Miller & Coates, 279 Pearl
 Mosaic Tile Co. 140 Nassau
 Person, Orrin D. Mohawk bldg. 160 Fifth av (see add p. 139)
 Pyrogravure Wood Co., 230 E. 37th (see add pp. 96-97)
 Smith, Jere. T. Menlo Park Ceramic Works, office and showrooms, 23d & Madison av (see add p. 131)
 Traitel Bros. 499 Fifth av (see add p. 82)

WAINSCOTING, WOOD MOSAIC.

Boughton & Terwilliger (Fifth Av Hotel) 23d st. and Fifth av
 Boynton & Van Winkle, 129 Fifth av
 Hannan, William & Co. 23 Union sq
 Kertscher & Co. 528-532 W. 24th
 Koch, G. W. 168 W. 34th
 National Wood Mfg. Co. 129 Fifth av
 N. Y. Flexible Wood Flooring Co. 17 W. 42d (see add p. 92)
 Orthlieb, M. & Son, 46 W. 67th
 Prince & Muir, 310 E. 95th
 Wood Mosaic Co. 315 Fifth av

WALL AND CEILING PLASTER.

Adamant Mfg. Co. 99 Nassau (see add p. 116)
 Fisher, Erskine W. 18 Broadway (see add p. 117)
 King, J. B. & Co. 21-24 State st.

J. B. KING & CO.,

Manufacturers of the Celebrated

"DIAMOND BRAND" PLASTER OF PARIS.

21 to 24 STATE STREET, NEW YORK.

See Advertisement, page 115.

Rock Plaster Co. of N. Y. 44 Broadway (see add p. 113)
 Stereo Relief Mfg. Co. 229-233 E. 41st

WALL AND FLOOR TILES.

Aeschlimann & Pellarin, 231 E. 28th
 American Encaustic Tiling Co. Ltd. 138-140 W. 23d (see add p. 76)
 Batterson, See & Eisele, 431 Eleventh av
 Belcher, S. P. 58 Liberty
 Boote, Alfred, 1567 Broadway
 Brigham, John K. 1458 Broadway
 Conover, John S. & Co. 28-30 W. 23d (see add p. 85)
 Dale Tile Mfg. Co. Ltd. 398 Broome (see add p. 49)
 Davidson Sons Marble Co. Eleventh av. and 27th (see add p. 123)
 Davis, Reid & Alexander, 18 E. 15th
 Elterich Art Tile Co. 108 Beekman
 Fleming Cement & Brick Co. 23 Liberty
 Gleason, Henry, 106 Beekman
 Gunnison, Austin, 5 E. 17th
 Haldy, George H. 115 Broadway
 Herter Bros. 154 Fifth av.

Howden & Fish, 216 W. 23d (see add p. 77)
 Jackson, W. H. & Co. 27 Union sq. (see add p. 84)
 Jackson's, W. Sons, 268 Water
 Kirtland, Andrews & Co. Ltd. 46-48 Union sq. (see add p. 83)
 Menlo Park Ceramic Works, Jere T. Smith, prop. 23d st. and Madison av. (see add p. 131)
 Miller & Coates, 279 Pearl
 Mosaic Tile Co. 140 Nassau
 Mott, J. L. Iron Works, 88 Beekman
 Person, Orrin D. 160 Fifth av. (Mohawk Bldg.)
 Rossman, Robert, 26 University pl
 Smith, Jere T. (Menlo Park Ceramic Works), 23d st. and Madison av. (see add p. 131)
 Thomas, E. H. 173 Broadway
 Traitel Bros. 499 5th av. (see add p. 82)

WALL COPING.

Colman, Charles H. & Co. 145 Broadway (see add pp. 136-137)
 Duffy, J. P. & Co. E. 138th, c. Railroad av.
 Nelson, William, 7 Chambers
 Ohio Sewer Pipe Co. Branch Office 145 Broadway, Chas. H. Colman & Co. agts. (see add p. 136)
 Otis & Gorsline, 484 E. 138th and E. 146th, c. Railroad av
 Person, Orrin D. Mohawk bldg. 160 Fifth av. c. 21st (see add p. 129)
 Robbins, Geo. B. & Co. 136th st. and Third av. (see add p. 122)
 Staten Island Terra Cotta Lumber Co. Equitable bldg. 120 Broadway (see add p. 130)
 Stewart & Co. Manhattan Pottery Terra Cotta Works. 540 W. 19th, 312 Pearl (see add p. 4)
 U. S. Fire Clay Co. Branch Office 145 Broadway, Chas. H. Colman, agt. (see add p. 136)

WALL MOULDINGS.

Allen & Stevens, 638 W. 48th
 Becker & Co. 330 W. 36th

BECKER & CO.,

MANUFACTURERS OF

Plain & Decorative Wall Mouldings

No. 330 WEST 36th STREET,
NEW YORK.

See Advertisement, page 142.

Bradley & Currier Co (Ltd.) 308 Hudson
 Brown, George & Clifford, 377 W. 12th and 120 Jane

Buffalo Door & Sash Co. Columbus av c. W. 124th

Campbell Sash Door & Moulding Co. (Ltd.) 429 E. 114th

Collins, D. P. Son. 38 Bethune

Davis, J. P. 70th and Avenue A

Ehrhard & Hagen, 247 W. 28th

Fischer, Schroeter & Co. 105 W. 42d

Gray, Jenks & Co. Lincoln Bldg. 1-3

Union sq. cor. 14th, Henry C. Adams, manager (see add p. 93)

Hall & Garrison, 32 Warren

Hall's, William, Sons, foot of E. 106th

Humbert & Wick, 151 Eleventh av

Kendall, Charles S. Columbus av c. W. 125th

Keogh, C. B. Mfg. Co. 6-8 Howard

Kirtland, Andrews & Co. 46-48 Union sq. c. 17th (see add p. 83)

McDowell, P. & Co. Gerard av n. E. 138th and 476 E. 139th

Mandeville, Henry V. 410 E. 104th

Mertez's, Geo. Sons, Portchester, New York (see add pp. 98-99)

Murray & Hill, 437 W. 42d

O'Neill, Charles H. Co. 135 Hudson

Parker, Edwin C. 157 Eleventh av (see add p. 100)

Peek, Elen. 24th and Eleventh av (see add p. 104)

Purdy, E. H. Mfg. Co. (Ltd.) 46 W. 13th
Pyrogravure Wood Co. 230 E. 37th (see add pp. 96-97)

Ransom, C. S. & Co. 10 W. 28th (see add opp. Fourth Ward)

Russell & Burgess, 653 Second av

Schuyler, G. L. & Co. office s. e. cor. 98th st and First av (see add p. 102)

Serrell, A. T. & Son, Eleventh av c. W. 58th

Smith, Jarvis B. 174 E. 116th

Smith, H. C. Co. 62 Tenth av. (see add p. 142)

Stout, James N. 74 West 23d

The Morgan Furniture Co. 1180 Broadway (represented by Norbert R. Ward)

Wright Lumber Co. 136-144 W. 38th

Manhattan Wall Paper Co. 613 W. 39th

Menzer, E. 1,039 Second av

Nevins & Haviland, 500 W. 42d

N. Y. Paper Co. (Ltd.) 124 W. 23d

Taylor, T. Lanning, 705 Sixth av

Thornton Bros. 909 Sixth av

Union Wall Paper Co. 482 Sixth av

Warren, Fuller & Co. 129 E. 42d

Young, Thomas A. 299 Broadway

WALLS AND CEILINGS, DECORATIONS, ARTISTIC.

Adams, Henry C. Lincoln bldg. 1-3
Union sq. cor. 14th (see add p. 93)

American Tapestry & Decorative Co. J. F. Douthitt, 286 Fifth av. (see add p. 90)

Beck Fred & Co. 30th and Fifth av. and 29th and Seventh av.

Berger's, H. Sons, 101 Fourth av

Boston Wall Paper Co. 35 E. 19th and 487 Fifth av

Bouche, Henry L. MacIntyre bldg. 874 Broadway (see add p. 93)

Campbell, W. & Co. 518 W. 42d and 503 W. 41st

Ellin, Kitson & Co. foot of W. 25th, North River

Fischer, Schroeter & Co. 105 W. 42d

Gibson's, William, Sons, 142 E. 33d

Graves, Robert Co. 483 Fifth av.

Gray, Jenks & Co. (Lincoln bldg.) 1 and 3 Union sq. c. 14th (see add p. 93)

Hall & Garrison, 32 Warren

Hall, J. T. (Mohawk bldg.) 160 Fifth av. c. 21st

Herter Bros. 20th st. and Fifth av. No. 154

Kertscher & Co. 528 to 532 W. 24th

Klee Bros. 202 E. 42d

Morrison, J. & J. 231-235 E. 42d

Mycenian Marble Co. 523-533 W. 59th (see add p. 200)

Nevins & Haviland, 500 W. 42d

Nielson, William, 1535-1537 Broadway

Parker, Edwin C. 157 Eleventh av. (see add p. 100)

Plasterine Co. 412 E. 23d

Pottier, Stymus & Co. 375 Lexington av.

Purdy, E. H. Mfg. Co. (Ltd.) 46 W. 13th

Pyrogravure Wood Co. 230 E. 37th (see add pp. 96-97)

Ransom, C. S. & Co. 10 W. 28th (see add opposite Fourth Ward)

Stereo Relief Mfg. Co. 229-233 E. 41st

Stout, James N. 74 W. 23d

The Morgan Furniture Co. 1180 Broadway, represented by Norbert R. Ward

Union Wall Paper Co. 482 Third av.

WALL PAPER, ARTISTIC.

Beck, Fred & Co. 30th & Fifth av and 29th & Seventh av.

Boston Wall Paper Co. 35 E. 19th and 487 Fifth av

Campbell, W. & Co. 518 W. 42d and 503 W. 41st

Graves, Robert Co. 483 Fifth av

McHugh, Joseph P. 3 W. 42d

JOSEPH P. McHUGH & CO.,

3 and 5 West 42d Street, at Fifth Avenue.

Foreign and Domestic

WALL PAPERS.

SPECIAL DISCOUNTS TO

BUILDERS and REAL ESTATE MEN.

Walls and Ceilings, Metal, Ornamental.—Walls, Floors and Ceilings, Art Mosaic.—Walls, Floors and Ceilings, Roman Mosaic.—Warm Air Registers, Ventilators, Etc.—
Wash Tubs, Artificial Stone, Plumbers' Supplies.

WALLS AND CEILINGS, IRON, ORNAMENTAL.

Lyles & Mills, 231 William
McCallum, John & Co. 426 Washington
Moseley Iron Bridge & Roof Co. (see add p. 49)
Mullins, Wm. H. 108 Chambers, J. T. Wagner, agent
Northrop, Henry S. 30 Rose (see add opp. Fourth Ward)
N. Y. Iron Roofing & Corrugating Co. 29 Broadway (see add p. 51)
Prince & Kinkel Iron Works, 729-731 First av (see add p. 51)

WALLS AND CEILINGS, METAL, ORNAMENTAL.

Farrell, M. J. & Co. 104 E. 13th
Lyles & Mills, 231 William
McCallum, John & Co. 426 Washington
Mullins, W. H. 108 Chambers, J. T. Wagoner, agent
Northrop, H. S. 18 Rose (see add opp. Fourth Ward)
Prince & Kinkel Iron Works, 729-731 First av. (see add p. 51)

WALLS, FLOORS AND CEILINGS, ART MOSAIC.

Aeschlimann & Pellarin, 231 E. 28th
Batterson, See & Eisele, 431 Eleventh av
Conover, J. S. & Co. 28-30 W. 23d (see add p. 85)
Davidson Sons Marble Co. 27th st. and Eleventh av. (see add p. 123)
Italian Marble Mosaic Co. 412-416 E. 23d
Lamb, J. & R. 58 Carmine
Mycenian Marble Co. 523-533 W. 59th (see add opposite p. 200)
Traitel Bros. 499 Fifth av (see add p. 82)

WALLS, FLOORS AND CEILINGS, ROMAN MOSAIC.

Aeschlimann & Pellarin, 231 E. 28th
Batterson, See & Eisele, 431 Eleventh av
Conover, J. S. & Co. 28-30 W. 23d (see add p. 85)
Davidson Sons Marble Co. 27th st. and Eleventh av. (see add p. 123)
Italian Marble Mosaic Co. 412-416 E. 23d

Lamb, J. & R. 58 Carmine
Traitel Bros. 499 Fifth av (see add p. 82)

WARM AIR REGISTERS, VENTILATORS, ETC.

American Radiator Co. 92 Centre, Judson A. Goodrich, manager
Backus, Peter & Son, 133-135 W. 25th (see add p. 64)
Boynton Furnace Co. 207-209 and 211 Water
Creamer, W. G. & Co. 96 John
Griffing A. A. Iron Co. 15 Dey
Richardson & Boynton Co. 232 Water
Richardson & Morgan, 92 Beekman
Simmonds Mfg. Co. 50 Cliff
Tuttle & Bailey Mfg. Co. 83 Beekman

WASH TUBS, ARTIFICIAL STONE, PLUMBERS' SUPPLIES.

Adee, Fred, 90 Beekman. (see add p. 109)
Albermarle Soapstone Co. 393 Pearl
Aspinall, Edwin, 100 Beekman
Blessing, George A. & Co. 290 Pearl. (see add p. 110)
Brandt, Fred, 169 E. 85th (see add p. 106)
Cushman, Eugene, 509 W. 15th
Hilgers, Jeanette, (r) 163 W. 104th
Macknight Flintic Stone Co. 150 Broadway. (see add p. 7)
McShane, Henry, Mfg. Co. 625-627 Sixth av (see add p. 108)
Penrhyn Slate Co. 101 E. 17th (see add p. 80)
Portland Cement Stone Co. 18 Exchange pl
Robinson Stoneware Co. 259 Water, Brooklyn
Sanitas Mfg. Co. 54 Gold
Stewart Ceramic Co. 312 Pearl (see add p. 4)
Tomkins, Calvin, 150 Broadway (see add p. 140)
Williams & Co. 90 Ann

WASH TUBS, FLINTIC STONE, PLUMBERS' SUPPLIES.

Macknight Flintic Stone Co. 150 Broadway (see add p. 7)

Wash Tubs, Slate, Plumbers' Sup.] 608

[Water Filter Manufacturers.

Wash Tubs, Soapstone, Plumbers' Supplies.—Wash Tubs, Solid White Crockery.—

Wash Tubs, Zinc, Plumbers' Supplies.—Watchman's Clock Manufacturers.—Water Closets, Sanitary, Plumbers' Supplies.

WASH TUBS, SLATE, PLUMBERS' SUPPLIES.

Brooklyn Slate Mantel Co. 1114 Park av
e. 90th (see add p. 81)

Pennrhyn Slate Co. 101 E. 17th (see add
p. 80)

WASH TUBS, SOAPSTONE, PLUMBERS' SUPPLIES.

Albermarle Soapstone Co. 393 Pearl

WASH TUBS SOLID WHITE CROCKERY.

Stewart Ceramic Co. 312 Pearl and foot
of W. 18th and 19th sts (see add p.
4)

WASH TUBS, ZINC, PLUMBERS' SUPPLIES.

Brandt, Fred, 169 E. 85th (see add p.
106)

WATCHMAN'S CLOCK MFRS

Accurate Time Stamp Co. 431 Eleventh
av

American Watchman's Time Detector,
J. S. Morse, supt. 234 Broadway

Bernsee, C. D. 317 Temple Court bldg.

C. D. BERNSEE,

THE ECO MAGNETIC WATCHMAN'S CLOCK.

Expressly for Counting Rooms, Manufactories, Public,
Buildings, Banks, Stores, Trust Companies, Warehouses,
Safe Deposit Vaults, &c.

317 Temple Court Building, N. Y.

See Advertisement, page 70.

Hausburg, O. E. 41 Maiden la

Himmer & Anderson Dry Battery Co. 20
Vesey

Howard E. Watch and Clock Co. The,
41 Maiden la

Imhauser, E. 206 Broadway

National Electrical Mfg. Co. 14 and 16
Vesey

Nauz, A. & Co. 116 Chambers.

Rosseau, David, 310 Mott av

Schaffer & Budenberg, (infrs.' agents),
40 John

Thomas, Seth, Clock Co. 49 Maiden la

WATER CLOSETS, SANI- TARY, PLUMBERS' SUPPLIES.

Adee, Fred & Co. 90 Beekman (see add
p. 109)

Beekman Salutory System Co. 56 Beek-
man (see add p. opp. Plumbing Laws
and Specifications)

The Beekman Salutory System Company.

(Incorporated Capital \$600,000.)

Sole Patentees and Manufacturers of

The Beekman Britannie "Whirlpool" Closet.

The Beekman Britannie "Fleur-de-lis" Closet.

The Beekman Duplex "Noiseless" Tank.

Factory, New York City.

Potteries, Trenton, New Jersey

Showroom, 56 Beekman St., N. Y. City.

Blessing, George A. & Co. 290 Pearl
(see add p. 110)

Colwell Lead Co. 63 Centre and 681
Sixth av

Harrison, Robert C. 46 Cliff

Huber, Henry & Co. 81 Beekman and
E. 136th, c. College av

Hussey, William H. 135 W. 30th

McShane, Henry, Mfg. Co. 625 and 627
Sixth av (see add p. 108)

McShane, William & Co. 107 W. 37th

Maddock, Thomas & Sons, 273 Pearl
Mayor, Lane & Co. 119 Walker and 161
E. 54th

Miller & Coates, 279 Pearl

Moore, Frederick G. 78 Beekman

Mott, J. L. 86-88 Beekman, 147 W.
35th and Third av. e. E. 133d

Peck Bros. & Co. 47 Cliff

Ronalds & Co. 56 Cliff

The Meyer-Sniffen Co. (Ltd.) 46-48 Cliff

Sanitas Manufacturing Co. 54 Gold

Waefelaer, Louis, 54 Beekman

WATER FILTER MFRS.

Backus, Peter & Son, 133-135 W. 25th
(see add p. 64)

Billish, Frederick, 316 E. 22d

Buhring Water Purifying Co. 1,389
Broadway

Casamajor Filter Co. 5 Beekman

Darragh Water Filter Co. 1,539 Broad-
way

Domestic Water Still Co. 15 Park Row

Fisk, Almond D. 18 Ann

Gate City Stone Filter Co. 35 Murray

Germ Proof Filter Co. 5 Broadway

Hegeman & Oliphant Filter Co. 112
Liberty

Henning, George, 1389 Broadway

Imp. Natural Stone Filter, 55 Murray

Johnson, John & Co. 1 Franklin sq

Water Gauge Manufacturers.—Water Meter Manufacturers.—Water Motor Manufacturers.
Water Proofing, Brick and Stone.

Loomis Imp. Filter Co. The, 111 Broadway
Morison-Allen Co. 145 Broadway
National Water Purifying Co. 145 Broadway
N. Y. Filter Co. 145 Broadway
Pasteur-Chamberland Filter Co. 1,339 Broadway
Puffer, William E. 73 Gold
Revolving Purifier Co. 66 Reade
Seed, Joseph H. 21 Centre
Turl, John & Son, 534 W. 28th
U. S. Water Purifying Co. 10 Barclay
Wilmot & Co. 182 South
Worthington, Henry R. 86-88 Liberty

WATER, GAS AND STEAM FITTINGS, IRON, MFRS., PLUMBERS' SUPPLIES.

Adee, Fred, 90 Beekman (see add p. 109)
Dane & Townsend Co. The, 82 Fulton
Eaton, Cole & Burnham Co. (mfrs.) 82 Fulton
McMann & Bro. T. R. 56 Gold
McNab & Harlin Mfg. Co. 56 John
McShane, Henry, Mfg. Co. 625-627 Sixth av (see add p. 108)
Mott, J. L. Iron Works, 88 Beekman
Nason Mfg. Co. 11 Beekman
Oil Well Supply Co. 92 Water
Pancoast & Rogers, 28 Platt
Roberts, George I. & Bros. 471-473 Fourth av. (see add pp. 62-63)
Sanitas Mfg. Co. 54 Gold

WATER GAUGE MFRS.

American Steam Gauge Co. 51 John
American Steam Specialty Co. 74 Cortlandt
Aschroft Mfg. Co. 111 Liberty
Burtis, Morse, 52 John
Crosby Steam Gauge and Valve Co. 78 John
Edson, Jarvis B. 87 Liberty
Hoppe, Paul F. 34 Church
McShane, Henry, Mfg. Co. 625-627 Sixth av. (see add p. 108)
Schaffer & Buddenberg, 83 John
Schmidt, Charles & Son, 41 Centre
Schmidt, G. & L. 216 Centre
Seipel, John, 90 Park Row
Willing, Charles G. 88 John
Zaubitz, August, 48 Centre

WATER METER MFRS.

Freeman Water Meter Co. 104 Chambers
Goodwin Gas Stove and Meter Co. 113 Chambers
Hearne Improved Gas Meter Co. 11 Pine

Morison-Allen Co. The, 145 Broadway
National Meter Co. 207 Broadway
Thomson Meter Co. 105 Fulton

THOMSON METER CO.

The Thomson Meter will run in any Position. All Thomson Meters now Fitted with our Patented

STEEL DISC, AND ARE HOT WATER PROOF.

N. Y. Office, 105 Fulton Street, N. Y.

Telephone, 1404 Cortlandt. General Offices & Factory, 39-43 York, 79-83 Washington Sts., Brooklyn.

See Advertisement, page 110.

Water Waste Prevention Co. 11, 12 and 13 Temple court
Worthington, Henry R. 86 and 88 Liberty

WATER MOTOR MFRS.

Corcoran, Andrew J. 76 John (see add p. 79)
Pelton Water Wheel Co. Central bldg. 143 Liberty
Salem Foundry and Machine Shop, 41 Dey
Tuerk Hydraulic Power Co. 237 Broadway
Whittier Machine Co. 93 Liberty, John Helmer, manager

WATER PROOFING, BRICK AND STONE.

Stone & Brick Water Proofing Co. (Caffall Process), Stewart bldg, 280 Broadway

Waterproofing for Buildings.

Stone & Brick Waterproofing Co.,
(CAFFALL PROCESS.)

Stewart Building, 280 Broadway, N. Y.,
Room 210.

See Advertisement, page 127.

WATER TIGHT CELLARS.

Asphaltic Slag & Roofing Co. 29 Broadway
Bolze, Henry, Times bldg. 41 Park Row
Comans & Evans, 81 Fulton
Compagnie-Generale des Asphaltes de France, 35 Broadway
Furlong & Furlong, 134th and Third av (see add p. 142)
Granitic Sidewalk & Vitrified Paving Block Co. 137-139 Broadway (see add p. 135)
Moens Asphaltic Cement Co. 103 Maiden Lane.
New, T. Mfg. Co. MacIntyre bldg. 874 Broadway.

Water Works Contractors.—Water Works, Pump, Manufacturers.—Weather Strip Manufacturers, Etc.—Weather Vanes and Tower Ornaments.

Portland Cement Stone Co. Central bldg.
143 Liberty
Robbins, George B. & Co. 136th and
Third av (see add p. 122)
Sicilian Asphalt Paving Co. Times bldg.
41 Park Row
The Neuchatel Asphalt Co. (Ltd.) 265
Broadway Robert Butcher, manager,
(see add p. 135)
Wootton, E. H. 35 Broadway

WATER WHEEL MFRS.

Holly Mfg. Co. Aldrich Court bldg. 45
Broadway
Leffel, James & Co. (turbine) 110 Lib-
erty
Pelton Water Wheel Co. Central bldg.
143 Liberty
Putnam Machine Co. 115 Liberty

WATER WORKS CON- TRACTORS.

Barry, J. P. & Co. 52 William
Blackmore Heating Co. 88 John (see
add p. 66)
Bolton, E. D. 44 Broadway
Clark & O'Brien, 40 Wall
Coyle, Joseph C. 258 Broadway
Dickinson, P. P. 7 Nassau
Gamble, James, 68 Wall
Harris, T. William, 44 Broadway
Lewis-Mercer Construction Co. 38 Wall
Moffet, Hodgkins & Clark, 34 Pine
Mullins, Robert F. 10 Wall
Paige, Carey & Co. 45 Broadway
Pierce Artesian & Oil Well Supply Co.
80 Beaver and 127 Pearl (see add
p. 212)
Reilly, H. J. 31 Broadway
Smith, F. H. 10 Exchange pl
Southern Railway Construction Co. 57
Broadway
U. S. Gas & Waterworks Construction
Co. 53 Broadway
White, William H. 32 Pine

WATER WORKS, PUMP, MFRS.

Barr Pumping Engine Co. 126 Liberty,
C. H. Tucker & Bro. Agents
Blake, Geo. F. Mfg. Co. 95-97 Liberty
Buffalo Steam Pump Co. 116-118 Lib-
erty
Cameron, A. S. Steam Pump Works,
339-343 E. 23d
Coreoran, Andrew J. 76 John (see add
p. 79)
Davidson, M. T. 77 Liberty (see add
opposite p. 327)
Deane Steam Pump Co. (The) 72 Cort-
landt, Edward H. Dockam, manager
Hall Steam Pump Co. 91 Liberty

Holly Mfg. Co. Aldrich Court, 45 Broad-
way
Knowles Steam Pump Works, 95
Liberty
Pierce Artesian & Oil Well Supply Co.
80 Beaver and 127 Pearl (see add p.
112)
Smith & Vaile Co. (The) 112 Liberty
J. M. Duncan, manager (see add p. 56)
The Snow Steam Pump Works, J.
Brotherhood, agent, 116 Liberty
Worthington, Henry R. 145 Broadway
and 86-88 Liberty

WEATHER STRIP MFRS., ETC.

American Weather Strip Co. 144 Centre
Bracher-Ventilator Co. 153 Fulton
Courtenay & Trull, 14 Dey
Everett, George W. 11 E. 10th
Gage, John S. 27 Barclay
Hedenberg, Frank B. 116 Chambers
Mineralized Rubber Co. 18 Cliff, patent
wool and leather
New York Weather Strip Co. 368 Sixth
av
Patent Metallic Weather Strip Co. 74 W.
23d
Protective Ventilator Co. 153 Fulton
Rigby, William, 114 Centre
Roebuck, S. 172 Fulton (see add oppo-
site Eleventh Ward)
Seeger, Charles A. 506 Sixth av
The Patent Metallic Weather Strip Co.
74 W. 23d, e. Sixth av
Vincent, C. R. & Co. 74 W. 23d

WEATHER VANES AND TOWER ORNAMENTS.

Briggs, A. A. 122 E. 129th
Fiske, J. W. 39 Park pl
Hamsley Metal Roofing Co. (finials), 18
Cliff
Jones, T. W. 170 and 172 Front
Lilly, C. H. 16 Centre
Mott, J. L. Iron Works, 88 and 90
Beekman
Mullins, W. H. 108 Chambers, Julius T.
Wagner, agent (see add opposite 23d
Ward, Part 2)
Washburne, E. G. & Co., 46 Cortlandt
Westervelt, A. B. & W. T. 102 Cham-
bers (see add p. 203)

WELL DRILLING.

Gregory & Co. 48 Church
Pierce Artesian & Oil Well Supply Co.
80 Beaver and 127 Pearl (see add
p. 212)

Well Supplies.]

611 [Window and Sash Fasteners, &c.

Wells.—Wells, Artesian.—Wells, Tube or Pipe.—White Lead Corrodors.—White Lead Manufacturers.—Whiting Manufacturers.—Wind Mill Manufacturer.—Wind Mills, Self-Regulating, New Solid Wheels.—Wind Mills, Tanks, Etc.

WELL SUPPLIES.

Corcoran, Andrew J. 76 John (see add p. 79)
Gregory & Co. 48 Church
Oil Well Supply Co. 32 Cortlandt
Pierce Artesian & Oil Well Supply Co.
80 Beaver and 127 Pearl (see add p. 212)

WELLS.

Pierce Artesian & Oil Well Supply Co.
80 Beaver and 127 Pearl (see add p. 212)

WELLS, ARTESIAN.

Pierce Artesian & Oil Well Supply Co.
80 Beaver and 127 Pearl (see add p. 212)

WELLS, TUBE OR PIPE.

Miller, F. W. 110 Centre
Pierce Artesian & Oil Well Supply Co.
80 Beaver and 127 Pearl (see add p. 212)

WHITE LEAD CORRODERS

Atlantic White Lead & Linseed Oil Co.
287 Pearl
Jewett White Lead Co. 28 Burling Slip
National Lead Co., 287 Pearl
National Lead & Oil Works, 28 Burling Slip

WHITE LEAD MFRS.

Atlantic White Lead and Linseed Oil Co. 287 Pearl
Breinig, Granville M. 240 Pearl
Bridgeport Wood Finishing Co. 240 Pearl
Childs, Charles M. & Co. 225 Pearl
Chilton Mfg. Co. 48 Maiden la
Devoe, F. W. & Co. 103 Fulton, 103 Horatio (see add p. 90)
Gautert, Paul & Son, 482 Third av
Jacobs & McCafferty, Bedford av and N. 15th, Brooklyn

J. Samuel Jacobs.

James A. McCafferty

JACOBS & McCAFFERTY

Manufacturers & Importers of

White Lead, Zinc & Fine Colors,

Dry and in Oil. Gold Seal White Lead.

OFFICE AND WORKS,

Bedford Ave. & N. 15th St., Brooklyn, N. Y.

See Advertisement, page 40.

Knowles, F. C. & Co. 180 Cherry
McDonough, Wm. & Co. 180 Front
National Lead and Oil Co. 28 Burling sl
N. Y. City White Lead Works, 182 Cherry
Raynolds, C. T. & Co. 106 Fulton
Rich Aquila Paint and Color Co. 84 William, 70 Maiden la and 9 Liberty
Schauable, Rea & Co. 90 Nassau
Schnartz, E. H. 23 Avenue A (see add p. 106)
Standard White Lead Mfg. Co. 501 West
Union White Lead Mfg. Co. 163 Front

WHITING MFRS.

Budd, John J. 149 Bank
Buel, Arthur. Mfg. Co. 4 Burling sl
Dunham, Thomas C. 68 Murray
Hammill & Gillespie, 240 Front
Knapmann, Wm. & Co. 19 Liberty
Koster, John N. 613 W. 39th
Malone, Frank, & Co. 540 W. 15th
Phillips & Ferguson, 48 Beekman
Taintor, Henry F. 281 Pearl
Truslow & Co. 219 Pearl and 4 Platt

WIND MILL MFR.

Corcoran, Andrew J. 76 John (see add p. 79)

WIND MILLS, SELF-REGULATING, NEW SOLID WHEELS.

Corcoran, Andrew J. 76 John (see add p. 76)
Pierce Artesian and Oil Well Supply Co.
80 Beaver and 127 Pearl (see add p. 212)

WIND MILLS, TANKS, ETC.

Brennan, James, 20 Burling sl (see add p. 78)
Corcoran, Andrew J. 76 John (see add p. 76)
Perfection Oil Tank Co. 130 Maiden la
Pollock, Alexander, 15 Cortlandt
Williams Mfg. Co. 16 Murray

WINDOW BLIND AND SASH FASTENERS AND FITTINGS.

Brainord, William F. 97 Chambers
Butler Hardware Co. 18 Warren
Champion Safety Lock Co. 92 Chambers

Window Caps.—Window Glass.

Chicago Hardware Mfg. Co. 150 Fifth av
Corbin, P. & F. 24 Murray
Crane & Halpin, 62 Reade
Dudley Shutter Worker Co. 5 Beekman
Kertscher & Co. 528-532 W. 34th
Morton's Sash Chains, 65 Elizabeth
Newman, Allen G. 1,180 Broadway
Payson Mfg. Co. 97 Chambers
Peck, Stow & Wilcox, 27 Chambers
Russell & Erwin Mfg. Co. 45 Chambers
Sargent & Co. 37 Chambers
Stanley Works, 79 Chambers
The G. Wright Young Co. 50 Broadway,
Tower bldg (see add p. 86)
The Smith & Egge Mfg. Co. 62 Reade,
represented by J. J. Halpin
Tower & Lyon, 95 Chambers
Van Wagoner & Williams, 14 Warren
West Side Architectural Iron Works,
550 W. 33d (see add p. 29)
Wilson, James G. 74 West 23d (see add
p. 88)

**WINDOW BLINDS, SHADES,
ETC.**

Albany Venetian Blind Co. 150 Broad-
way, William G. Orr, manager
Bradley & Carrier Co. (Ltd.) 308 Hud-
son
Burlington Blind Co. 95 Nassau
Connell, George W. 73 Murray, window
shade rollers
Davis Adjustable Shade Co. 136 Liberty
Hartshorn, Stewart, 486 Broadway,
shade rollers
Keogh, C. B. Mfg. Co. 6-8 Howard
Morstatt & Son, 227 W. 29th
Pinney, Casse, Lackey & Co. 275 Canal
Pirrson, F. M. & Co. Lincoln bldg, 1-3
Union sq. cor. 14th
Venetian Blind Co. Pulitzer's "World"
bldg. room 61 (Hill's patent inside
sliding blinds, see add p. 87)
Wilson, Jas. G. 74 W. 23d (see add p. 88)

WINDOW CAPS.

Schwoerer, J. 8 E. 2d

JACOB SCHWOERER,

SKYLIGHTS, CORNICES,

Etc.,

**No. 8 SECOND STREET,
NEW YORK.**

See Advertisement, page 132.

WINDOW GLASS.

Aronsen, Harris, 133 Eighth av
Avery, Penabert & Co. 63 S. Fifth av

Bache, Semon & Co. 443-453 Green-
wich
Baker, Tobias, 722 Westchester av
Bartelstone & Edelman, 33 New Bowery
Blumberg, Meyer H. 48 Greenwich
Coble, Robert, 269 Division
Cohen, Jacob, 190 Allen
Cohen, Wolf, 534 Sixth av
Cowen, N. & Son, 207 Canal
Davis, Michael, 2036 Second av
Dougherty, Elliott & Morrison, 70
Wooster

Dunham, Thomas C. 68 Murray
Foote, Henry W. 158 S. Fifth av

**H. W. FOOTE,
WINDOW GLASS**

Manufactured by

NATURAL GAS.

158 SOUTH FIFTH AVE., NEW YORK,

One-and-a-Half Block above Grand Street.

Telephone, No. 1048 Spring.

26 Oz. Sheet Glass

Franklin, G. 204 Eighth av
Glaser, Sigfried, 383 E. 10th
Goldstein, Harris E. 653 Second av
Goldstein, Henrietta, 227 W. 31st
Goldstein, Isaac, 340 E. 79th
Green, Wolf, 161 W. 27th
Haft, Jacob S. 230 E. 125th
Harris, Levy, 89 Liberty
Heroy & Marrenner, 126 S. Fifth av
Holbrook Bros. 87 Beekman
Josephs, Isaac, 66 Cherry
Kite, Morris, 1578 First av
Knopf, Nathan, 210 E. 121st
Kommel, Louis M. 166 E. 110th
Levi, Harris, 62 Vandam
Mentz, Joseph, 274 Division
Miles, James 103 Fourth av
Morris, Theo. W. & Co. 438-444 Canal
(see add p. 89)
Moses, Morris, 250 Third av
Paul, Maurice, 178 Avenue A
Rawle, Minnie, 1605 Broadway
Rechenberg, W. H. E. 10 Desbrosses
Reed, Emma A. 48 College pl
Reed Glass Co. 65 Warren
Roberts, David H. 159 S. Fifth av
Rubin, Jacob, 24 James
Schroeder, Rudolph, 13 William
Semmer, Philip, 8 Desbrosses
Shapiro, Herman, 1067 Second av
Sheld, Max, 2328 Second av
Spitz & Henschel, 172 Seventh av
Sussman, Jacob, 208 Third av
Thorne, Arthur, 4 Desbrosses
Vanhome, Griffen & Co. 131 Franklin
Walker, Esther, 2044 Second av
Wood, David E. 587 Greenwich

WINDOW GUARDS.

Actra Iron Works, 298-300 E. 64th (see
add p. 61)
Althause, S. B. & Co. 101-103 Thomp-
son (see add p. 27)

Central Expanded Metal Co. 67 Reade
(see add p. 114)
Dewitt Wire Cloth Co. 32 Reade (see
add p. 26)
Estey, W. S. 65 Fulton (see add p. 24)
Howard & Morse, 45 Fulton (see add p.
5)
Lyon, W. E. 202 E. 46th (see add p. 46)
Muhl, J. & Son, 329 E. 33d (see add p.
50)
The William R. Pett Composite Iron
Works, 83 Reade

WINDOW SHADE MFRS.

Bergh, B. F. & Co. 58 Fulton
Carpenter, James B. 438 Broadway
Casse, Lackey & Co. 275 Canal
Cullen, Richard J. 69 W. Broadway and
33 Worth
Davis Adjustable Shade Co. 136 Liberty
Doane & Gowdey, 126 William

DOANE & COWDEY,

Window Shade Manufacturers,

No. 126 WILLIAM STREET,

Between Fulton and John, NEW YORK.

Store and Office Fittings a Specialty. Jobbing in all
its Branches.

Fishman, Max, 185 Orchard

MAX FISHMAN,

Manufacturer and Jobber of

WINDOW SHADES.

Practical Shade Hanger.

No. 185 ORCHARD STREET.

Estimates for Stores, Flats and Apartment Houses cheer-
fully given. Lettering and Borders Made to Order.

Fouche, William W. jr. Willow av e. E.
135th

Freed, J. S. 50 W. 14th

Friedman, H. 273 E. Houston

Fuessel, George G. 333 Fourth av

Established 1853.

CEO. C. FUESSEL,

Manufacturer of the

NONPAREIL WINDOW SHADES.

333 FOURTH AVENUE,

Factory, Vanderbilt Ave., bet. 178th and 179th Streets.

Decorated Window Shades a Specialty.

Gage, G. A. 1472 Third av

Green, J. H. 254 W. 32d

Grohman, Emil G. 246 E. 120th

Hedenberg, Frank B. 116 Chambers

Horowitz Bros. 103 E. 4th

HOROWITZ BROS.,

Manufacturers of all kinds of

WINDOW SHADES,

No. 103 EAST 4th STREET,

NEW YORK.

Hunninghaus & Lindemann, 245 Canal
Hyde, Benjamin, 212 Centre
James, Thomas M. 173 Canal
Kling, Guertin & Co. 540 Pearl
Kloes, F. J. Mfg. Co. 260 Canal
Kroh, H. C. & Co. 678 Broadway
McHugh, Joseph P. & Co. 3 W. 42d
Manhattan Shade Cloth Co. 456 Broome
Mayer Brothers, 201 and 205 W. 23d
and 406 Broadway
Maynard, Alfred, 304 W. 144th
Nevin & Haviland, 500 W. 42d
Nichols, Paul, 61 Warren
Nott, Theo. 1,644 Columbus av
Oswego Shade Cloth Co. 353 Broadway
Pfnausch, Frederick, 211 Canal
Richter & Doetschmann, 135 Duane
Ruddiman, Alexander S. 560 E. 140th
Schuall, Albert, 453 W. 50th
Schuessler & Wiggin, 74 Grand
Seebald, A. 1,063 Third av
Stamm, E. 91 Canal
Townley, George E. 458 Pearl
Waite, William M. 257 Canal
Weiffenbach, C. & H. 196 E. Houston
Wemple, J. C. Co. 537-539 Broadway
Wiggins, H. B. Sons, 124 Clinton pl

H. B. WIGGINS'S SON,

Manufacturer of

Sun-Fast Rocksonia Hollands

FOR

WINDOW SHADES.

121 CLINTON PLACE, NEW YORK.

Wilson, James G. 74 W. 23d (see add
p. 88)

WINDOW SHADE DEALERS

Ackerman, H. L. 48 Avenue C

Berndt, Joseph, 540 8th av

Both, Herman, 947 E. 161st

Burrows, E. T. & Co. 319 Broadway

Calographic Window Shade Co. 260
Canal

Carpenter, James B. 419 Broadway

Closter Shading Co. 338 Broadway

Cohen & Lewis, 29 Carmine

Cullen, R. J. 33 Worth and 69 W.
Broadway

R. J. CULLEN,

WINDOW SHADES,

33 Worth and 69 West Broadway.

Doane, George (r) 126 William

Fishman, Max, 185 Orchard

Freed, James S. Co. 18 E. 14th

Freed, P., 1050 Third av

Fuessel George G., 333 Fourth av

Gage, George A. 1472 Third av

Harscher, A. 150 Avenue C

Hedenberg, Frank B. 116 Chambers

FRANK B. HEDENBERG,

Manufacturer of

OPAQUE AND HOLLAND

WINDOW SHADES,With Patent Fixtures for Stores, Offices and Dwellings.
Lettering and Designing on Store and Office Shades to
Order. Established 1874.**116 CHAMBERS ST., NEW YORK.**Horowitz Bros. 103 E. 4th
Humphreys & Lindemann, 245 Canal
Hyde, Benjamin, 212 Centre
James, Thomas M. 173 Canal
Kahn, H. 552 Second av
Kinney's, E. B. Sons, Amsterdam av and
159thKling, Guertin & Co. 542 Pearl
Kroh, H. C. & Co. 678 Broadway
Lugars, J. G. Son & Co. 302 Fourth av.
McHugh, Joseph P. & Co. 3 W. 42d
Madlener, Frank, 407 Broome
Manhattan Shade Cloth Co. foot E.
135th

Mayer, Max, 256 E. 125th

Mayer Bros. 204 W. 23d

Maynard, Alfred, 304 W. 114th

Metzner, E. 1039 Second av

Minetto Shade Cloth Co. 111 Franklin

Muller, Louis, 1559 Third av

Nevins & Hayiland, 500 W. 42d

Nichols, Paul, 61 Warren

Oswego Shade Cloth Co. 353 Broadway

Pinney, Casse & Lackey Co. 275 Canal

Richter & Doetschmann, 419 Broadway

Roome, Stabb & Co. 54 Fulton

Rosenstock, Max, 150 Essex

Ruddiman, Alex. S. Alexander av and
137th

Schroder & Shelton, 46 W. 14th

SCHRODER & SHELTON,

Manufacturers of

FINE WINDOW SHADES,

No. 46 West 14th Street.

Painters and Decorators. Freehand Frescoing and Re-
lief a Specialty.

Seebald, A. 1060 Third av

Silverman, T. S. 68 Worth

Stamm, Emil, 91 Canal and 104 Av B

Stamm, Max, 62 Essex

Thorpe, Edward, 344 Fourth av

Waite, William M. 343 Canal

Walz, Frank, 203 Canal

Weiffenbach, C. & H. 196 E. Houston

Weil, I. 585 Eleventh av

Weiss & Klan Bros. 323 Grand

Wemple, Jay C. Co. 537-539 Broadway

Wiggins, H. B. Sons. 124 Clinton pl

Zubinsky, Isaac, 43 1-2 Division

WINDOW SHADE ROLLERS

Connell, George W. 73 Murray

Davis Adjustable Shade Co. 136 Liberty

Hartshorn, Stewart, 486 Broadway

Wemple, Jay C. & Co. 537-539 Broad-
way

Whitehead, William W. 2 W. 14th

**WINDOW CORDS AND
TWINES.**Elizabeth Cordage Co. 46 South
Lawrence Cordage Works, 46 South
National Cordage Co. 135 Front
Sampson Cordage Works, Boston, Mass.
Travers, J. P. & Son, 46 Beekman
Wall's, William, Sons, 113 Wall and
56 South (see add p. 71)**WIRE BANK AND OFFICE
RAILINGS.**

Aldridge, Arthur W. 109 John

Anderson, H. C. & Co. 124 W. Broad-
way

Andrews Mfg. Co. 74-76 Fifth av

Bataille, Achille, 122 W. Broadway (see
add p. 23)Brooklyn Wire Cloth Works, 107 John
Central Wire Works, 30 ChurchCornell, J. B. & J. M. 141 Centre (see
add pp. 35, 37, 39)Dewitt Wire Cloth Co. 32 Reade (see
add p. 26)Empire Metal Working Co. 76 Fifth av
Estey, W. Shepherd, 65 Fulton (see add
p. 24)

Fiske, J. W. 39 Park pl

Haymonn, S. 123 Avenue A

Hopkins & Co. 90 W. Broadway

Horrocks, J. 59 Fulton

Howard & Morse, 45 Fulton (see add
p. 5)

Hurley, John H. 30 Church

McMurray, Robert T. & Bro. 141-143
Centre (see add p. 25)

Mecke, H. 887 Eighth av

National Mfg. Co. 45 Cliff

New York Brass & Wire Works Co.
177 Grand

Norwood, J. & Sons, 89 Centre

Pitt, William R. Composite Iron Works,
83 ReadePrince & Kinkel Iron Works, 729-731
First av (see add p. 51)

Rathey, E. 484 Sixth av

Reith, J. F. & Co. 257 Third av

Schoeffel, Martin, 168 W. Broadway

Washburn, A. S. 333 W. 52d

Westerfelt, A. B. & W. T. 102 Cham-
bers (see add p. 203)

Williams, George A. & Sons, 45 Fulton

Wooley & Co. 61 Fulton

Wire Cloth, Copper, Pure.—Wire Cloth Manufacturers.—Wire Dealers, Wholesale.

WIRE CABLES.

Cooper, Hewitt & Co. 17 Burling Slip
 Dewitt Wire Cloth Co. 32 Reade (see
 add p. 26)
 Hazard Mfg. Co. 87 Liberty (see add
 p. 55)
 Roebling's, John A. Sons' Co. 117
 Liberty
 Washburn & Moen Mfg. Co. 16 Cliff

**WIRE CLOTH, COPPER,
PURE.**

Dewitt Wire Cloth Co. 32 Reade

DE WITT WIRE CLOTH CO.,

Manufacturers of

*Brass and Copper Wire Cloth, &c.,***32 Reade Street, New York.****703 Market St., Philadelphia, Pa.***See Advertisement, page 26.***WIRE CLOTH MFRS.**Anderson, H. C. & Co. 124 W. Broad-
way**H. C. ANDERSON & CO.,****124 WEST BROADWAY,****WIRE WORKERS.****Bank and Office Railings. Window
and Door Guards.**

Estimates Cheerfully Furnished.

Bataille, Achille, 122 W. Broadway (see
add p. 23)

Brooklyn Wire Cloth Works, F. G.

Richardson, prop. 107 John

Cable, William, Excelsior Wire Mfg.
Co. 43 FultonClinton Wire Cloth Co. Geo. E. Howard,
agent, 76 Beekman

Corcoran, W. A. & Co. 5 Beekman

De Milt, H. R. & Co. 238 Water

De Witt Wire Cloth Co. 32 Reade (see
add p. 26)

Estey, W. Shepard, 65 Fulton

W. S. ESTEY,

Manufacturer of

WIRE CLOTH

of Brass, Bronze, Copper, Iron, &c.

Wire Work for Bank Office, &c.

No. 65 FULTON STREET, NEW YORK.*See Advertisement, page 24.*

Gilbert & Bennett Mfg. Co. 14 Cliff

Hopkins & Co. 90 W. Broadway

Howard & Morse, 45 Fulton

"National Wire and Ventilator Works."

Established 1856.

HOWARD & MORSE,

Manufacturers of

WIRE-CLOTH, WIRE-WORK, WIRE-FENCE,**SOLID BRASS OFFICE RAILING.**Warehouse, **45 Fulton Street, N. Y. City. U. S. A.***See Advertisement, page 5.*

Howard, George E. 76 Beekman

Huxley, John H. 30 Church

Kress & Co. 56 Warren

National Mfg. Co. 15 Cliff

Richardson, Fred. G. 107 John

Roeblings, John A. Sons Co. 117 Lib-
erty

Schermerhorn, J. Maus, Times bldg

Tristram, James J. Jr. 195 Water

Washburn, A. S. 333 W. 52d

Williams, George A. & Sons, 85 Fulton

Wooley & Co. 61 Fulton

**WIRE DEALERS,
WHOLESALE.**

Bridgeport Brass Co. 19 Murray

Bruce & Cook, 186, 188 and 190 Water
and 248 and 250 Pearl

Clinton Wire Cloth Co. 76 Beekman,

George E. Howard, agent

Coddington, T. B. & Co. 238 Cliff

De Milt, H. R. & Co. 238 Water

De Witt Wire Cloth Co. 32 Reade (see
add p. 26)Dickerson, Van Dusen & Co. 29 and 31
Cliff

Estey, W. S. 65 Fulton (see add p. 24)

Frasse, Peter A. & Co. 95 and 97 Fulton

Frasse & Co. 97 Park Row

Fuller Bros. & Co. 139 Greenwich

Greeley, E. S. & Co. The, 5 and 7 Dey

Griggs, E. D. (brass), 61 and 63 Duane

Hobson, Francis, Seaman & Co.

(needles), Chas. Huggill, agt. 97 John

Merchant & Co. 247 Pearl

Montgomery & Co. 105 Fulton

Naylon & Co. 45 Wall

Newhall, Henry B. Co. (mfrs.' agts.),
105 ChambersPatterson, Gottfried & Hunter (Ltd.),
146 to 150 Centre

Phelps, Dodge & Co. 11 Cliff

Pollock, Alexander, 15 Cortlandt

Rice Musical String Co. (piano, steel and
brass), 161 W. 29th

Slover & Tyler, 47 South

Thomson, A. A. & Co. 213 and 215
Water

Wetherell Bros. (steel), 93 Liberty

**WIRE ELEVATOR AND
DOOR GUARDS.**Aetna Iron Works, 298-300 E. 64th
(see add p. 51)

Anderson, H. C. & Co. 121 W. Broadway
 De Witt Wire Cloth Co. 32 Reade (see add p. 26)
 Empire Metal Working Co. 76 Fifth av
 Estey, W. S. 65 Fulton (see add p. 24)
 Howard & Morse, 45 Fulton (see add p. 5)
 Lyon, W. E. 202 E. 46th (see add p. 46)
 McMurray, Robert T. & Bro. 141-143 Centre (see add p. 25)
 Prince & Kinkel Iron Works, 729-731 First av (see add p. 51)
 The William R. Pitt Composite Iron Works, 83 Reade
 Woolley & Co. 61 Fulton

WIRE FENCE AND RAIL- ING MFRS.

Anderson, H. C. & Co. 121 W. Broadway
 Bataille, Achille, 122 W. Broadway (see add p. 23)
 Chicago Wire Goods Co. 93 John
 Clinton Wire Cloth Co. 76 Beekman,
 George E. Howard, agent
 DeWitt Cloth Co. 32 Reade (see add p. 26)
 Empire Metal Working Co. 76 Fifth av
 Estey, W. S. 65 Fulton (see add p. 24)
 Fiske, J. W. 39 Park pl
 Gantier Steel Dep't Cambria Iron Co. 104 Reade
 Gilbert & Bennet Mfg. Co. 44 Cliff
 Hartman Mfg. Co. 32 Warren and 102 Chambers
 Howard & Morse, 45 Fulton (see add p. 5)
 Iowa Barb Wire Co. (works Allentown, Pa.) 98 Reade
 Lyon, W. E. 202 E. 46th (see add p. 46)
 McMurray, Robert T. & Bro. 141 and 143 Centre (see add p. 25)
 National Iron Fence Co. 173 Broadway
 Oliver & Roberts Wire Co. Fuller Bros. & Co. agents, 139 Greenwich
 Prince & Kinkel Iron Works, 729-731 First av (see add p. 51)
 Roebbing's, John A. Sons Co. 117 Liberty
 Sutton, E. W. 79 Beekman
 Washburn & Moen Mfg. Co. 16 Cliff
 Westervelt, A. B. & W. T. 102 Chamber (see add p. 203)
 Wolff, R. H. & Co. (Ltd.), 534 to 560 E. 118th

WIRE GOODS MFRS.

Aldridge, A. W. 109 John
 American Pin Co. (specialties and pointed goods) 424 Broadway
 Anderson, H. C. & Co. 121 W. Broadway
 Andrews Mfg. Co. 74 and 76 Fifth av
 Bataille, Achille, 122 W. Broadway (see add p. 23)

Baumann F. (show figures), 19 Howard
 Brockner & Evans, 28 Vesey
 Brooklyn Wire Cloth Works, F. G. Richardson, prop. 107 John
 Central Wire Works, 30 Church



Chicago Wire Goods Co. 93 John
 Clough Corkscrew and Capsule Co. The, (18) 132 Nassau
 Collins and Nuttall (spark guards and folding fenders), 418 W. 27th
 DeWitt Wire Cloth Co. 32 Reade (see add p. 26)
 Elliott & Cogle (wire mattresses), 52 Elizabeth
 Estey, W. Shepard, 71 Fulton (see add p. 24)
 Fraser, Russell (spooler), 79 Centre
 Gerhardt C. 584 Hudson
 Gilbert & Bennett Mfg. Co. 44 Cliff
 Gillotte John A. (dress forms), 390 Sixth av
 Hall Bazar Form Co. (dress forms), 833 Broadway
 Hamblin & Russell Mfg. Co. (housekeeping goods), 44 Cliff
 Hannum M. L. (wire mattresses), 209 E. 19th
 Hartman Mfg. Co. (door mats and fencing), 102 Chambers
 Hopkins & Co. 90 W. Broadway
 Herrocks, Joshua, 59 Fulton
 Howard & Morse, 45 Fulton (see add p. 5)
 Humason & Beckley Mfg. Co. (bright goods), 80 Chambers
 Kindilmann, Jacob (dress forms), 396 Broome
 Kleeman, John O. 206 E. 29th
 Lambolely F. (rings for fur ornaments), 4 Variek pl
 Landers, Frary & Clark (bright goods), 298 Broadway
 Lane Mfg. Co. 350 Canal
 McMurray, Robert T. & Bro. 141 and 143 Centre (see add p. 25)
 National Mfg. Co. 45 Cliff
 National Wire Mattress Co. (mattress and springs), 20 E. 14th
 Norris, Wallace & Borchert (adjustable dress show figures and stands), 209 E. 23d
 Norwood, J. & Son, 89 Centre
 Oakville Co. (pins, safety pins, and novelties) 48 Howard
 Osborn, Mfg. Co. (bird cages, etc.), 79 Bleecker

Osborne & Cheesman Co. (brass, copper and German silver), 39 Barclay
 Peers, H. A. & Co. 7 Jay
 Pitt, Wm. R. (steel door mats), 83 Reade
 Reed & Keller (florists' designs), 122 W. 25th
 Reichhelm, E. P. & Co. (brushes), 80 Nassau
 Salem Wire Nail Co. (nails), 261 Broadway
 Sammis, George R. 414 Fourth av
 Sargent & Co. 37 Chambers
 Schoeffel Martin, 168 W. Broadway
 Steffens, N. (florists' designs), 335 E. 21st
 Sullivan, John, 188 E. 124th
 Tristram, James J. Jr., 195 Water
 Van Wagoner & Williams Co. (coat and hat hooks), 14 Warren
 Washburn, A. S., 333 W 52d
 Weber, C. W. B., 17 and 19 William
 Williams Globe Wire Works, 85 Fulton
 Wolff, R. H. & Co. (Ltd.), 534 to 560 E. 118th
 Woods, Sherwood & Co. (white lustral household), 176 Fulton
 Wooley & Co. 61 Fulton

WIRE GUARD AND OFFICE RAILINGS.

Andrews Mfg. Co. 76 Fifth av
 Bataille, Achille, 122 W. Broadway (see add p. 23)
 Dewitt Wire Cloth Co. 32 Reade (see add p. 26)
 Empire Metal Working Co. 76 Fifth av
 Estey, W. S. 65 Fulton (see add p. 24)
 Howard & Morse, 45 Fulton (see add p. 5)
 McMurray, R. T. & Bro. 141-143 Centre (see add p. 25)
 Pitt, William R. Composite Iron Works, 83 Reade
 Prince & Kinkel Iron Works, 729-731 First av (see add p. 51)
 The William R. Pitt Composite Iron Works, 83 Reade
 Wooley & Co. 61 Fulton

WIRE LATHING MFRS.

Bailey, Thomas, Tenth av and 151st (see add p. 9)
 Bostwick Metal Lath Co. 38 Park Row (see add p. 113)
 Central Expanded Metal Co. J. K. Combs, manager, 67 Reade
 Clinton Wire Cloth Co. 76 Beekman, George E. Howard, agent
 DeWitt Wire Cloth Co. 32 Reade (see add p. 26)

FIRE PROOF STEEL PLASTERING LATH, Made from Expanded Metal.

Best Metallic Lath made. It is easily applied without Stretching or Furring, Making Perfect "Key" and Solid Work. Expanded Metal in other Forms is Used for Fences, Gates, Window Guards, &c. Write for Illustrated Catalogue No. 20.

Central Expanded Metal Co., 116 Water St., Pittsburgh, Pa.
J. K. Combs, 67 Reade St., N. Y. City.

See Advertisement, page 114.

Estey, W. S. 65 Fulton (see add p. 24)
 Gilbert & Bennett Mfg. Co. 41 Cliff
 Hayes, George, 71 Eighth av (see add p. 8)
 Howard & Morse, 45 Fulton (see add p. 5)
 McMurray, Robert T. & Bro. 141 Centre (see add p. 25)
 New Jersey Wire Cloth Co. 117 Liberty
 Roebling, John A. Sons Co. 117 Liberty

WIRE MFRS.

Ansonia Brass & Copper Co. 19 Cliff
 Bataille, Achille, 122 W. Broadway

ACHILLE BATAILLE,

Manufacturer of all Kinds of

Brass, Iron and Wire Railings and Guards for Banks, Offices, Dwellings, Cemeteries, etc. Wire Enclosures for Elevators, also Patent Folding Gates.

No. 122 WEST BROADWAY, New York.

See Advertisement, page 23.

Brockner & Evans, 28 Vesey
 Cable, William, Excelsior Wire Mfg. Co. 43 Fulton
 Candee, Willard L. 13 Park row
 Carey & Moen Co. 234 W. 29th
 Cheever, H. Durant, 13 Park row
 Church & Sleight, 109 Fulton
 Clinton Wire Cloth Co. 76 Beekman, George E. Howard, agent
 Cobb Vulcanite Wire Co. 45 Broadway
 Cooper, Hewitt & Co. 17 Burling slip
 Day, S. A. 164 Fulton
 Dewitt Wire Cloth Co. 32 Reade (see add p. 26)
 Eagle Wire Works, 484 Sixth av
 East Side Wire Works, 119-123 Avenue A
 Empire Metal Working Co. 76 Fifth av
 Estey, W. S. 65 Fulton (see add p. 24)
 Frasser, Russell, 79 Centre
 Fuller Bros. & Co. 139 Greenwich
 Hopkins & Co. 90 W. Broadway
 Howard & Morse, 45 Fulton (see add p. 5)
 International Okonite Co. (Ltd.) 13 Park row (see add p. opposite key to Ward Maps)
 Iowa Barb Wire Co. 98 Reade
 Kilmer Mfg. Co. 102 Chambers

Kleeman, John O. 206 E. 29th

MANHATTAN WIRE WORKS**JOHN O. KLEEMAN, Prop.,**

Manufacturer of

Plain and Ornamental Wire Work, Adjustable Folding Window Guard.

No. 206 EAST 29th STREET,

Near Third Avenue.

NEW YORK.

Lewisohn Bros. 83 Fulton

Lieb & Splittorf. 23 Vandewater

Loudback & Parker Wire Co. 171

Broadway

McMurray, Robert T. & Bro. 141 Centre

ROBT. T. McMURRAY & BRO.

Manufacturers of

WIRE WORK OF EVERY DESCRIPTION

Required in Construction, or for Ornamental or Protective Purposes.

Plans and Specifications Furnished. Estimates Cheerfully Given.

Office, Cornell Building, 141 & 143 Centre St., New York.
Works, 365 to 371 Harman Street, Brooklyn.

Maimone, A. & Co. 63 Elizabeth

Manhattan Brass Co. 338 E. 28th

Miller & Van Winkle, 102 Walker

Newhall, Henry B. Co. 105 Chambers

New Haven Insulated Wire Co. 18 Cortlandt

Norwich Insulated Wire Co. 58 Cedar

Norwood, Edmund H. 89 Centre

Nourse, Fred Co. 162-164 W. 27th

Roebling's, John A. Sons' Co. 117 Liberty

Safety Insulated Wire & Cable Co.
234 W. 29th

Simplex Electrical Co. 115 Broadway

Splittorf, Charles F. 23 Vandewater

Standard Wire Co. 63 Elizabeth

Trenton Iron Co. 17 Burling slip

Trinidad-Heimann Insulated Wire Co.
47 Liberty

Wallace & Sons, 29 Chambers and 5 Reade

Walsh, John, 45 Cliff

Washburne & Moen, Mfg. Co. 16 Cliff

Wiley, George L. 11 Park row

Williams, George A. & Sons. 85 Fulton

Wire Fabric Co. 41 Park row

Wolff, R. H. & Co. (Ltd.) foot E. 118th

WIRE NAIL MFRS.

American Tack Co. 116 Chambers

Atlas Sack Corporation, 116 Chambers

Dunbar Hobart & Co. 39 Warren

Field, A. & Sons. 88 Chambers

Oliver & Roberts Wire Co. (Ltd.) (Fuller

Bros. & Co. agents) 139 Greenwich

Russell & Erwin Mfg. Co. 43 and 47

Chambers

Salem Wire Nail Co. 261 Broadway

Stebbins, Charles J. (mfrs.' agent), 103

Reade

WIRE ROPE.

Broderick & Bascom Rope Co., 33 South

Butler Hardware Co. 18 Warren

Conyngham, Thomas D. 87 Liberty

Cooper, Hewitt & Co. 17 Burling slip

Degraw, Aymau & Co. 34 South

DeWitt Cloth Co. 32 Reade (see add p. 26)

Doerge, Hermann, 556 Eleventh av

Estey, W. S. 65 Fulton (see add p. 24)

Hazard Mfg. Co. The, 87 Liberty

Established 1848.

THE HAZARD MANUFACTURING COMPANY,

Manufacturers of

THE BEST WIRE ROPE.

Iron, Steel and Galvanized.

Office and Warehouse, **87 Liberty St., New York.**

General Office and Works, Wilkes-Barre, Pa.

See Advertisement, page 55.

International Okonite Co. 13 Park row

(see add opposite Key to Ward Maps)

Mason, John W. & Co. (mfrs' agts.), 52 Dey

McDowell, Wm. (mfrs.' agt.), 117 Liberty

Murphy, M. J. 91 Montgomery

Pollock, Alexander, 15 Cortland

Roebling's, John A. Sons Co. 117 Liberty

Trenton Iron Co. 17 Burling slip

Washburn & Moen Mfg. Co. 16 Cliff

Williams, George A. & Sons, 85 Fulton

WIRE SCREENS.

Aldridge, Arthur W., 109 John

Anderson, H. C. & Co. 124 W. Broadway

Andrews Mfg. Co. 74 and 76 Fifth av

Bataille Achille, 122 W. Broadway (see add p. 23)

Brooklyn Wire Cloth Works, 107 John

Burrowes, E. T. & Co. 319 Broadway

Cable, Wm. Excelsior Wire Mfg. Co. 43 Fulton

Central Wire Works (window and door), 30 Church

Collins & Nuttall (spark guards and fenders), 418 W. 27th

DeWitt Wire Cloth Co. 32 Reade (see add p. 26)

Estey, W. Shepard, 65 Fulton (see add p. 24)

Gilbert & Bennett Mfg. Co. 44 Cliff

Heymann, S. 123 Avenue A

Hopkins & Co. 90 W. Broadway

Howard & Morse, 45 Fulton (see add p. 5)

Kleeman, John O. 206 E. 29th

Levy, M. R. & Co. 27 Wooster

Long Island Wire and Iron Works, 89 Centre

McMurray, Robert T. & Bro. 141 and 143 Centre (see add p. 25)
 Mecke, H. 887 Eighth av
 National Mfg. Co. 45 Cliff
 New York Weather Strip Co. 368 Sixth av
 Patent Metallic Weather Strip Co. 74 W. 23d
 Reebuck, Samuel, 172 Fulton (see add opposite Eleventh Ward)
 Tristram, James J. Jr. 195 Water
 Washburn, A. S. 333 W. 52d
 Westervelt, A. B. & W. T. 102 Chambers (see add p. 203)
 Williams' Globe Wire Works, 85 Fulton
 Wooley & Co. 61 Fulton

WIRE WINDOW AND DOOR GUARDS.

Anderson, H. C. & Co. 124 W. Broadway
 Andrews Mfg. Co. 124 W. Broadway
 Bataille Achille, 122 W. Broadway (see add p. 23)
 DeWitt Wire Cloth Co. 32 Reade (see add p. 26)
 Empire Metal Working Co. 76 Fifth av
 Estey, W. S. 65 Fulton (see add p. 24)
 Howard & Morse, 45 Fulton (see add p. 5)
 Huxley, John H. 30 Church
 Lyon, W. E. 202 E. 46th (see add p. 46)
 McMurray, Robt. T. & Bro. 141-143 Centre (see add p. 25)
 Muhl, J. & Son, 329 E. 33d (see add p. 50)
 Prince & Kinkel Iron Works, 729-731 First av (see add p. 51)
 Reebuck, Samuel, 172 Fulton (see add opposite Eleventh Ward)
 Williams, George & Sons, 85 Fulton
 Wooley & Co. 61 Fulton

WIRE WORKERS.

Aldridge, Arthur W. 71 Centre
 Am. Tree Guard Co. 71 Cortlandt
 Anderson, H. C. & Co. 124 W. Broadway
 Bataille Achille, 122 W. Broadway (see add p. 23)
 Berlin, Saul N. (r) 107 Rivington
 Behsart, W. F. 387 Bowery
 Brain, George P. C. 37 W. 4th
 Carriere & Haas, Lincoln bldg. 1-3 Union sq c. 14th
 DeWitt Wire Cloth Co. 32 Reade (see add p. 26)
 Estey, W. S. 65 Fulton (see add p. 24)
 Empire Metal Working Co. 76 Fifth av
 Fraser, Russell, 79 Centre
 Fulton Wire Works (Wooley & Co.) 61 Fulton
 Grottko, Fred. W. 217 Bowery
 Hamblin & Russell Mfg. Co. 44 Cliff

Heymann, Solomon, 119 Avenue A
 Hopkins & Co. 90 W. Broadway
 Horrocks, Joshua, 59 Fulton and 1265 Broadway
 Howard & Morse, 45 Fulton (see add p. 5)
 Huxley, John H. 30 Church

JOHN H. HUXLEY,

PROPRIETOR,

CENTRAL WIRE WORKS,

**No. 30 CHURCH STREET,
 NEW YORK.**

Hyman, C. M. & Co. 100 Walker
 Kleeman, John O. 206 E. 29th
 Klotz, Frederick, 147 S. Fifth av
 Koch Bros. 188 Wooster
 Kopankiewicz & Dabrowski, 177 Grand
 Krutosik & Durinik, 137 Avenue A
 Lefebure, E. L. 129 Wooster
 McMurray, Robt. T. & Bro. 141 Centre (see add p. 25)
 Mecke, Herman, 887 Eighth av
 Miller, Charles J. 260 2d
 National Mfg. Co. 45 Cliff
 N. Y. Brass & Wire Works Co. 177 Grand
 Norwood, E. H. 89 Centre
 Nosacks, Paul, 106 E. 16th
 Oliver & Co. 124 E. 125th
 Osmund, William, 1307 Third av
 Palmenberg, J. R. Sons, 713 Broadway
 Pianeta & Helenek, 513 Third av
 Prince & Kinkel, 729-731 First av (see add p. 51)
 Rattey, Emil, 484 Sixth av
 Reith, J. F. & Co. 257 Third av
 Schenck, John, 1221 Third av
 Schoeffel, John, 73 Ninth av
 Standard Wire Co. 63 Elizabeth
 Steele, W. J. 188 E. 124th
 Steffens, N. 335 E. 21st
 Stetzer, Libovius, 134 Chrystie
 Sullivan, John, 188 E. 124th
 Tristram, James J. Jr. 195 Water
 Twisted Wire Box Strap Co. 451 Greenwich
 Vogt, August, 781 Cortlandt av
 Washburn, A. L. 333 W. 52d

A. L. WASHBURN,

Manufacturer of all Kinds of
 Useful & Ornamental

WIRE WORK,

333 & 335 West 52d Street,

BETWEEN 8th and 9th AVENUES, NEW YORK.
 Window Guards and Screens, Bank and Office Railings,
 Nursery Fenders, Fire Guards, &c. Orders by Mail will
 Receive Prompt Attention.

Wenk, Theodore, 75 Fulton
 Westervelt, A. B. & W. T. 102 Chambers (see add p. 203)
 Williams, George A. & Sons, 85 Fulton
 Wilson, Henry F. 458 W. 38th
 Woods, Sherwood & Co. 176 Fulton
 Wooley & Co. 61 Fulton

Wires, Electric, Manufacturers.] 620

[Wood Ceilings.

Wires, Gutta Percha, Manufacturers.—Wires, Insulated, Manufacturers.—Wood Carpeting,
Artistic—Wood Carvers.

WIRE, ELECTRIC, MFRS.

Bishop Gutta Percha Co. 420-426 E.
25th
Habershaw, William M. 315 Madison av
Holmes, Booth & Hayden, 25 Park pl
and 22 Murray
India Rubber & Gutta Percha Insulating
Co. 315 Madison av
Interior Conduit & Insulation Co. Edi-
son bldg. 44 Broad
The International Okonite Co. (Ltd.) 13
Park row (see add opposite Key to
Ward Maps)
Safety Insulated Wire & Cable Co. 234
W. 29th

WIRES, GUTTA PERCHA, MFRS.

Bishop Gutta Percha Co. 422 E. 25th

WIRES, INSULATED, MFRS

Bishop Gutta Percha Co. 420-426 E.
25th

Bishop Gutta-Percha Co.,
Manufacturers of

TELEGRAPH CABLES, INSULATED WIRES, AND GUTTA-PERCHA GOODS.

Nos. 420 to 426 East 25th St., New York.
Day's Kerite Wire Co. 16 Dey
Habershaw, William M. 315 Madison av
Holmes, Booth & Hayden, 25 Park pl
India Rubber & Gutta Percha Insulating
Co. 315 Madison av
Interior Conduit & Insulation Co. Edi-
son bldg. 44 Broad
International Okonite Co. 13 Park row
(see add opposite Key to Ward Maps)
New Haven Insulated Wire Co. 16-18
Courtlandt
Norwich Insulated Wire Co. The, 58
Cedar
Roebling's, John A. Sons Co. 117
Liberty
Safety Insulated Wire & Cable Co. 234
W. 29th

WOOD CARPETING, AR- TISTIC.

Baumgarten, Jacob L. 229 Park row
Boughton & Terwilliger (Fifth Av
Hotel), 23d st and Fifth av
Hannam, William & Co. 23 Union sq
Hartung, Lorenzo R. & Co. 353 E. 74th

Koch, G. W. 168 W. 34th
National Wood Mfg. Co. 129 Fifth av
New York Flexible Wood Flooring Co.
17 W. 42d (see add p. 92)
Ortlieb, M. & Son. 46 W. 67th
Prince & Muir, 310-316 E. 95th
Wood Mosaic Co. 315 Fifth av

WOOD CARVERS.

Autenreith, G. W. 507 E. 70th
Banta, J. W. 339 W. 24th
Epp, John M. 250 E. 90th

JOHN M. EPP,

WOOD CARVER,

No. 250 EAST 90th STREET,

NEW YORK.

Grubenbecher, H. 159 Ludlow

H. CRUBENBECHER,

Artistic Wood Carving Works,

No. 159 LUDLOW ST., Near Stanton St., N. Y.

Ornamental and Figure Carving for Interior Decorations,
Furniture, Etc. Carvings Reproduced by Machine from
Plaster, Wood or Metal Patterns. Carved Wood Patterns
for Casting Made to Order. Estimates given.

Hector, Edward S. 638-640 W. 48th
Hollingsworth & Co. 120 W. 25th
Liesenbein, Philip, 508 W. 24th

PHILIP LIESENBEIN,

Architectural and Ornamental

WOOD CARVER,

No. 508 WEST 24th STREET,

Between 10th and 11th Avenues, NEW YORK.

Patterns for Ornamental Castings.

O'Connor, G. 510-512 W. 35th
Schleich, Paul, 301 E. 21st

PAUL SCHLEICH,

ARTISTIC WOOD CARVER,

And Machine Carving.

No. 301 EAST 21st STREET,

Corner Second Avenue, NEW YORK,

Vrasda, J. 502 E. 74th

WOOD CEILINGS.

Boughton & Terwilliger, Fifth Av
Hotel, 23d and Fifth av
Gardner Co. 643 W. 48th
Gray, Jenks & Co. Lincoln bldg. 1-3
Union sq (see add p. 93)
Hannam, William & Co. 23 Union sq

Hartung, Lorenzo R. 353 E. 74th
 Kertscher & Co. 528-530-532 W. 24th
 Koch, G. W. 168 W. 34th
 National Wood Mfg. Co. 129 Fifth av
 New York Flexible Wood Flooring Co.
 17 W. 42d (see add p. 92)
 Prince & Muir, 310-316 E. 95th
 Pyrogravure Wood Co. 230 E. 37th (see
 add pp. 96, 97)
 White, Potter & Paige, 18 E. 17th
 Wood Mosaic Co. 315 Fifth av

WOOD FILLERS.

Berry Bros. 252 Pearl
 Breinig, Granville M. 240 Pearl
 Bridgeport Wood Finishing Co. 240
 Pearl
 Chilton Mfg. Co. 147 Fulton
 Crockett, David B. Co. 84 William and
 70 Maiden la
 Devoe, F. W. & Co. Fulton c. William
 (see add p. 90)
 Longman & Martinez, 207 Pearl
 Pierce, F. O. & Co. 170 Fulton
 Pratt & Lambert, 47 John
 Prince Mfg. Co. 71 Maiden la
 Rich, Aquila, Paint & Color Co. 84 Will-
 iam, 70 Maiden la and 9 Liberty
 Somers, Lindeman & Co. 281 Pearl

WOOD MANTEL MFRS.

Beck, Wagner & Co. 406-408 E. 104th
 Blanch & Co. 16 Horatio
 Bogumil, Herman, 422 E. 48th
 Boote, Alfred, 1567 Broadway
 Bradley & Currier Co. Ltd. 308 Hudson
 Brown, George & Clifford, 46 E. 14th
 Buffalo Door & Sash Co. Ninth av and
 124th
 Campbell Sash Door Co. The, 429 E.
 144th
 Christman, George B. 1210 Second av
 Cleavert, C. J. 324 W. 26th
 Conover, J. S. & Co. 28-30 W. 23d (see
 add p. 85)
 Davis, Reed & Alexander, 18 E. 15th
 Grant, William D. 1456 Broadway
 Gray, Jenks & Co. Lincoln bldg. 1 and 3
 Union sq (see add p. 93)
 Hall & Garrison, 32 Warren
 Howden & Fish, Chelsea Hotel bldg.
 216-218 W. 23d (see add p. 77)
 Hayden Furniture Co. 1 W. 34th
 Jackson, W. H. & Co. 27 E. 17th
 Jenkins Co. 247 Canal
 Keogh, C. B. & Co. 4 Howard
 Kertscher & Co. 530-532 W. 24th
 Kilian Bros. 157-159 W. 32d
 Kirtland, Andrews & Co. Ltd. 46-48
 Union sq c. 17th and Fourth av (see
 add p. 83)
 Kurtz & Topp, 321-325 E. 64th

Messereau, W. T. & Co. Union sq
 N. Y. Lumber & Wood Working Co.
 173 Broadway
 Nichols, A. S. & Co. 15 W. 27th
 Parsons, C. A. 107th st and First av
 Pritchard, E. M. & Son, 138th st. and
 Mott av
 Pries, W. H. Co. 433 Canal
 Provost, Frederick, 5 E. 17th
 Radley & Greenough, 502-504 E. 74th
 (see add p. 92)
 Rummler, H. B. 367-369 W. 11th
 Schastey, George A. & Co. 53d st and
 Broadway
 Schmidt, Bernard, 501-505 E. 70th
 Smith, B. & W. 220 W. 29th
 Smith, Jarvis B. 174-180 E. 116th
 Smith, H. C. 'Co. The, 62 Tenth av (see
 add p. 142)
 The McElwee Mfg. Co. 507-509 W.
 35th
 The Morgan Furniture Co. 1180 Broad-
 way, Norbert L. Ward, manager
 Traitel Bros. 499 Fifth av (see add p.
 82)
 White, Potter & Page, 18 E. 17th
 Wilson, James G. 74 W. 23d (see add
 p. 82)

WOOD MOULDINGS.

Albro, E. D. & Co. 196-200 Lewis (see
 add p. 95)
 Allen & Stevens, 638 W. 48th
 Brassington, John D. 258 W. 28th
 Brown, George & Clifford, 46 E. 14th
 Christman, George B. 1210 Second av
 Cole, Cyrus & Co. 256 W. 28th
 Collins, D. P. Son, 38-48 Bethune
 Connolly & Avey, 713 Broadway
 Davis, John P. 70th st and Avenue A
 Drescher & Schlessinger, 7 Barclay
 Dunn, W. S. & Co. 46 Murray
 East River Mill & Lumber Co. foot 92d
 st and E. R.
 Ehrhard & Hagen, 247 W. 28th
 Fischer, Schroeter & Co. 105 W. 42d
 Gramm & Rudolph Mfg. Co. 3 Marion
 Gray, Jenks & Co. Lincoln bldg. 1 and 3
 Union sq (see add p. 93)
 Gregorius, Jacob, 129 Attorney
 Hall & Garrison, 32 Warren
 Hanson, John, 422 E. 92d
 Havens, J. H. & Son, foot 56th and
 N. R.
 Hawes, Joseph H. 1601 West Farms
 Hees, Bernard, 398 Broome
 Hester, Eugene W. 18 E. 15th
 Hollerbach, P. 96 Church
 Humbert & Wick, 151 Eleventh av
 Jacobus & Wickens, 145 Elm
 Keogh, C. B. Mfg. Co. 6-8 Howard
 Kertscher & Co. 528-530 W. 24th
 Kern, E. 180 W. Houston and 3 Bed-
 ford
 Kuamer, Caspar, 102 Centre

Langwasser, H. P. & Bros. 211 W. Houston

Lather, Conrad, 31 S. Fifth av

Leroy, Otis S. 140 W. 23d

Libman, Meyer, 184 Bowery

McDowell, P. & Co. Rider av and 139th

McKee, George W. 435 Water

Matthes, Charles & Schwarz, 529 E. 16th

Mertz's, George, Sons, Portchester, N. Y.
(see add pp. 98-99)

Mombach, John, 112 Stanton

Morrison, Robert, 617-619 W. 50th

Mullen, John T. 511 W. 30th

Murphey, M. 503-509 W. 15th

W. 15th ST. PLANING & MOULDING MILLS,

M. MURPHEY, Prop.,

503 to 509 West 15th St., New York

AND

508 West 16th Street, Near 10th Ave., New York.

Planing and Matching, Re-Sawing. Timber and Band Sawing. Wainscoting, Mouldings, Casings, Door and Window Jambs, Trim, &c.

Newell, D. C. & Sons, foot W. 19th
(see add p. 103)

Nott, Francis A. 377 West

Peck, Eben. 24th st and Eleventh av
(see add p. 104)

Price & Carl, 510-512 First av

Pritchard, E. M. & Son, 138th st and Mott av

Purdy, E. H. Mfg. Co. Ltd. 46 W. 13th
Pyrogravure Wood Co. 230 E. 37th (see add pp. 96-97)

Reuter, William, 11 Barclay

Robb & Morrison 647-649 W. 50th

Ruhland, Henry, (r) 81 Chrystie

Russell & Burgess, 653 Second av

Schneider & Fuchs, 116 Chambers

Seutenne, E. H. 132 Nassau

Serrell, A. S. & Son, Eleventh av and W. 58th

Smith, H. C. Co. (The) 62 Tenth av
(see add p. 142)

Stevens, P. foot W. 48th

Stout, James N. 74 W. 23d

Strehan, Albert, 131 W. 31st

Established 1869.

ALBERT STREHAN,

ROOM, FRAME & DECORATIVE MOULDINGS,

Picture and Mirror Frames, Window Cornices and
Curtain Poles.

131 WEST 31st STREET, NEW YORK.

Terrell & Vroom, 368 Eighth av

Tufts, L. C. & Co. 119 Elm and 84 Walker

Trimble, James A. 222 E. 28th

White, Potter & Paige, 18 E. 17th

Youngs, William P. & Bros. 432 E. 10th

Zimmermann & Steiber, 9-11 Baxter

Zubinsky, Joseph, 174 Centre

WOOD ORNAMENTS, ARCHITECTURAL.

Ellin, Kitson & Co. foot 25th and N. R.

Gray, Jenks & Co. Lincoln bldg. 1-3

Union sq c. 14th, Henry C. Adams,
manager.

Hall & Garrison, 32 Warren

Keitscher & Co. 528-530-532 W. 24th

Little, Charles E. 59 Fulton

PERMANENT EXHIBIT

Hand and Foot Power Machines.

W. F. & J. Barnes Co.'s. J. M. Marston & Co.'s.

Narragansett Mach. Co.'s. Seneca Falls Co.'s.

Adding Latest Goods as they Appear. Price List Free

LITTLE'S TOOL STORE,
59 FULTON STREET, NEW YORK.

See Advertisement, page 101.

Mertz's, George, Sons, Portchester, N. Y.
(see add pp. 98-99)

National Wood Mfg Co. 129 Fifth av
Parker, Edwin C. 157 Eleventh av

EDWIN C. PARKER,

MANUFACTURER OF

Natural Wood Embossed Ornaments

157 ELEVENTH AVE., near 22d St., N. Y.

Duplicates of Hand Carving. Embossed Mouldings,
Borders, Corner Blocks, Panels and Rosettes. Papyrus
Ceiling Centres. Send for New Catalogue, 1892.

See Advertisement, page 100.

Purdy, E. H. Mfg. Co. 42-48 W. 13th
Pyrogravure Wood Co. 230 E. 37th (see
add pp. 96, 97)

Ransom, C. S. & Co. 10 W. 28th (see
add opposite Fourth Ward)

Schastey, George A. & Co. 53d and
Broadway

Stout, James N. 74 W. 23d

The Morgan Furniture Co. 1180 Broad-
way, represented by Norbert R. Ward

WOOD STAINING.

Auffermann & Co. 211 E. 42d

American Wood Staining Works

AUFFERMANN & CO.,

Ebony Imitation Antique Wood and Fancy Colored Wood.

211 East 42d Street, N. Y.

WOOD TANKS.

Blessing, George A. & Co. 290 Pearl (see
add p. 110)

Brennan, James, Driggs av, N. 10th and 11th, Brooklyn

JAMES BRENNAN, COOPER and TANK BUILDER

Cedar Vats, Tanks for Breweries, &c.

No. 20 Burling Slip, NEW YORK.

455-468 Driggs Ave., cor. North 11th St., Brooklyn, N.Y.
Telephone, 83 Greenpoint.

See Advertisement, page 58.

Corcoran, Andrew J. 77 John (see add p. 79)

McShane, Henry, Mfg. Co. 625-627 Sixth av (see add p. 108)

New England Steam Cooperage Co. 19 Whitehall

Schwarzwalder, J. & Sons. 629 W. 51st

Standard Stave & Cooperage Co. 160 State st Boston. New York Office, 19 Whitehall st (see add p. 77)

WOOD TURNERS.

Burenne & Demuth, 42 W. 67th

Eckenroth, F. & Son, 820 E. 5th

Ellin, Kitson & Co. foot 25th and N. R.

Estes, E. B. & Sons, 254 Pearl

Mackenzie, George, 492 So. Boulevard

Muller, John T. 511 W. 30th

JOHN T. MULLER, SAWING AND TURNING MILL,

Newels, Balusters and Hand Rails. Jobbing
Done at Short Notice.

**No. 511 WEST 30th STREET,
NEW YORK.**

Scharfer, John, 257 W. 27th

Smith, J. O. Mfg. Co. 82 John

Thomann, F. A. 257 W. 27th

Vanderbilt & Reynolds, 373 Broadway

WOOD, VULCANIZED.

The Haskin Wood Vulcanizing Co. office, 40 Wall st., works, 19th st and East river & 155th st and Eighth av

WOOD WORK, ARCHITECTURAL.

Adams, Henry C. Lincoln bldg. 1-3 Union sq e. 14th

Aufferman & Co. 211 E. 42d

Black, D. R. 155 E. 128th

Black & Co. 16 Horatio

Bogumil, H. 422 E. 48th

Boughton & Terwilliger, Fifth av Hotel, 23d and Fifth av

Bradley & Carrier Co. (Ltd.) 308 Hudson

Brereton & McIntosh, 149 Eleventh av

Brown, Alex. R. 324 W. 26th

Brown, George & Clifford, 379 W. 12th (Warerooms, 46 E. 14th)

Buffalo Door & Sash Co. Columbus av and 124th

Campbell Sash, Door & Moulding Co. 42 E. 146th

Chesley, W. P. Central Building, 143 Liberty

Christman, George B. 1240 Second av

Cottier & Co. 144 Fifth av, and 193 Seventh av

Davenport, Alfred H. 299 Fifth av and 135 W. 25th

Degrat & Taylor, 47 W. 14th, 48 W. 15th

Dietz, Rockett & Co. 42 W. 67th

Ellin, Kitson & Co. foot 25th and N. R.

Epple, G & Son, 20 E. 22d

Ferguson Bros., 263 Canal and 451 W. 30th

Fischer, Schroeter & Co. 105 W. 42d

Flint, George C. 106 W. 14th, 151 W. 19th, 304 West

Graham, Charles & Sons Co. (Ltd.) 309 E. 43d

Gray, Jenks & Co. (Lincoln Building). 1-3 Union sq. Henry C. Adams, manager, (see add p. 93)

Hagen, Ernest F. 243 E. 26th

Hagen & Shaw, 125 Fifth av

Hall & Garrison, 32 Warren

Harting, L. R. Co. 353-356 E. 58th

Hayden Furniture Co. 1 W. 34th

Hedden, V. J. & Sons, 143 Liberty

Herter Bros. 154 Fifth av. 485 First av, factory

Herts Bros. 834 Broadway and 104 E. 32d, factory

Hess, D. S. & Co. 876 Broadway, 318 E. 75th, factory

Hildebrand, Rudolph, 319-325 E. 64th

Homan, Andrew & Co. 440-450 Water, 191 Canal

Horner, R. J. & Co. 63 W. 23d

Kertscher & Co. 528-530-532 W. 24th

KERTSCHER & CO.,

**528-530-532 WEST 24th STREET,
NEW YORK.**

ARTISTIC WOOD MANTELS, AND CABINET WORK.

Designs Submitted.

Kilian Bros. 157-159 W. 32d

Kimble, A. & Sons, 7 E. 20th

Koch, G. W. 168 W. 34th

Kramschild, A. 151-153 Eleventh av

Kurtz & Graham, 17 W. 34th and 321 E. 64th

McDowell, P. & Co. Rider av e. E. 139th

Manderville, H. & Son, 243 W. 47th

Marcotte, L. & Co. 298 Fifth av and 158 W. 32d

Mason & Co. 320 Madison av
 Mertz's, George, Sons, Portchester, N. Y. (see add pp. 98, 99)
 Mitchell, D. 155 E. 44th
 Newman & Co. 263 Fifth av and 323 E. 22d
 New York Carving Co. 806 Greenwich
 New York Lumber & Wood Working Co. 173 Broadway
 Outwater, Edwin, 523 W. 23d
 Palmer & Embury, 20 E. 18th and 9 Gouverneur slip
 Parker, Edwin C. 157 Eleventh av (see add p. 100)
 Passmore, Richard, 204 W. 15th
 Phillips, George W. 569 W. 23d (see add p. 101)
 Pottier, Styms & Co. 375 Lenox av
 Purdy, E. H. Mfg. Co. 42-48 W. 13th
 Pyrogravure Wood Co. 230 E. 37th (see add pp. 96, 97)
 Radley & Greenough, 16 E. 42d (see add p. 92)
 Ransom, C. S. & Co. 10 W. 28th (see add opposite Fourth Ward)
 Reimann, Jacob, 152-154 Prince
 Rode, Fred, 247 Fifth av and 122 W. 25th
 Schaeltler, F. 245-247 W. 28th
 Schastey, George A. & Co. 53d and Broadway, 449-451 W. 53d, 504-506 W. 14th
 Smith, B. & B. 220 W. 29th
 Smith, W. H. 945 Broadway, 173 Fifth av
 Stout, James N. 74 W. 23d
 The H. C. Smith Co. 62 Tenth av (see add p. 142)
 The Morgan Furniture Co. 1180 Broadway, Norbert R. Ward, manager
 Uckermann, Fred, 312 E. 75th
 Villanne, H. & Co. 484 E. 139th
 Wilson Bros. 638-640 W. 48th

WOOD WORK, INTERIOR DECORATIONS.

Boughton & Terwilliger, Fifth Av Hotel, 234 and Fifth av
 Bradley & Currier Co (Ltd.) 308 Hindson
 Chesley, W. P. Central bldg, 143 Liberty
 Cottier & Co. 144 Fifth av and 193 Seventh av
 Davenport, Alfred H. 299 Fifth av, and 135 W. 25th
 Ellin, Kitson & Co. foot 25th and N. R.
 Fischer, Schroeter & Co. 105 W. 42d
 Gray, Jenks & Co. (Lincoln bldg) 143 Union sq. (Henry C. Adams, manager) (see add p. 93)
 Hall & Garrison, 32 Warren
 Hayden Furniture Co. 1 W. 34th
 Herter Bros. 154 Fifth av and 485 First av. factory
 Herts Bros. 834 Broadway, 104 E. 32d, factory

Hess, D. S. & Co. 876 Broadway, 318 E. 75th, factory
 Hildebrand, Rudolph, 319-325 E 64th
 Horner, R. J. 63 W. 23d
 Kertscher & Co. 528-530-532 W. 24th
 Kilian Bros. 157-159 W. 32d
 Kimble, A. & Sons, 7 E. 20th
 Koch, G. W. 168 W. 34th
 Kurtz & Graham, 17 W. 34th
 Kurtz & Topp, 321-325 E. 64th
 Little, Charles E. 59 Fulton (see add p. 101)
 Marcotte, L. & Co. 298 Fifth av and 158 W. 32d
 Mason & Co. 320 Madison av
 Mertz's, George, Sons, Portchester, N. Y. (see add pp. 98-99)
 Newman & Co. 263 Fifth av and 323 E. 22d, factory
 Outwater, Edward, 523 W. 23d
 Phillips, George W. 560 W. 23d (see add p. 101)
 Prince & Muir, 310-316 E. 95th
 Purdy, E. H. Mfg. Co. 42-48 W. 13th
 Pyrogravure Wood Co. 230 E. 37th (see add pp. 96-97)
 Ransom, C. S. & Co. 10 W. 28th (see add opp. Fourth Ward)
 Rode, Fred, 247 Fifth av and 122 W. 25th, factory
 Schastey, George A. & Co. 53d and Broadway, 449-451 W. 53d and 504-506 W. 14th
 Stent, James N. 74 W. 23d
 White, Potter & Page, 18 E. 17th

WOOD WORK, IRON CLAD WINDOWS AND DOORS.

West Side Architectural Iron Works, 550 to 560 W. 33d (see add p. 29)

WOOD WORKING MACHINERY.

Berlin Machine Works, 121 Liberty
 Ford, George L. 257 W. 27th
 Garvin (The) Machine Co. Laight and Canal
 Little, Charles E. (agency W. F. & J. Barnes Co.) 59 Fulton (see add p. 101)
 Muller, Jacob, 418 and 420 E. 62d (see add p. 52)
 Prybil, P. 512 to 524 W. 41st
 Putnam Machine Co. 115 Liberty
 Rogers, C. B. & Co. 109 Liberty
 Smith, H. B. Machine Co. 121 Liberty
 Spofford, Charles (carriage makers), 312 and 314 E. 22d
 Valentine Bros. 345 Produce Exchange
 Woods, S. A. Machine Co. (planing and moulding), 91 Liberty

WORKERS IN BRASS AND FORGED IRON.

Aetna Iron Works, 298-300 E. 64th (see add p. 51)
 Althause, S. B. & Co, 101-103 Thompson (see add p. 27)
 Carrere & Haas Iron Works, Lincoln bldg, 1-3 Union sq c. 14th
 Conover, J. S. & Co. 28-30 W. 23d (see add p. 85)
 Cornell, J. B. & J. M. 141 Centre and 26th, bet. Tenth and Eleventh avs (see add pp. 35-36-37)
 Empire Metal Working Co. 76 Fifth av
 Estey, W. S. 65 Fulton, (see add p. 24)
 Hecla Architectural Bronze and Iron Works, Poulsen & Egar, Pulitzer bldg, showrooms, 48-51 (see add p. 28)
 Jackson Arch. Iron Works, 315 E. 28th (see add p. 31)
 Jackson, W. H. & Co. 27 E. 17th (see add p. 84)
 Luetke, Oscar, 662-668 Hudson (see add opp. Ninth Ward)
 Lyon, W. E. 202 E. 46th (see add p. 46)
 Marren's, Joseph. Sons, 157 E. 44th
 Muhl, J. & Son, 323 E. 33 (see add p. 50)
 Prince & Kinkel Iron Works, 729-731 First av (see add. p. 51)
 Richey, Brown & Donald, 20-22 Roebing, 218-224 N. 11th, Brooklyn (see add p. 47)
 Springfield Foundry Co. Equitable bldg (room 12), 120 Broadway (see add p. 16)
 The William R. Pitt Composite Iron Works, 83 Reade
 Thorpe & Conlin, Lincoln bldg, 1-3 Union sq. c. 14th
 Williams, John, 544-556 W. 27th

JNO. WILLIAMS,

Wrought Iron, Brass and Bronze,

HAND WORK TO SPECIAL DESIGN.

544 to 556 West 27th Street, New York.

See Advertisement, page 36.

WRENCH MFRS.

American Saw Co. 35 Dey
 Armstrong Mfg. Co. (pipe and monkey) 242 Canal
 Atwater, H. W. (pipe) 38 Warren
 Campbell Printing Press and Mfg. Co. 160 William
 Collins Co. 212 Water
 Delaney Mfg. Co. (carriage), 39 Vesey
 Eaton, Cole & Burnham Co. (pipe), 82 and 84 Fulton

Greene, Tweed & Co. 83 Chambers (see add p. 53)
 Miller's Falls Co. 93 Reade
 Sargent & Co. 37 Chambers
 Tower & Lyon, 95 Chambers
 Wallace & Sons, 29 Chambers

WROUGHT IRON AND BRASS WORK.

Aetna Iron Works, 298-300 E. 64th (see add p. 51)
 Althause, S. B. & Co. 101-103 Thompson (see add p. 27)
 Bowes, John J. 227-229 W. 29th (see add p. 43)
 Carrere & Haas, Iron Works, Lincoln bldg. 1-3 Union sq c. 14th
 Conover, J. S. & Co. 28-30 W. 23d (see add p. 85)
 Cornell, J. B. & J. M. 141 Centre and 26th bet. Tenth and Eleventh avs (see add pp. 35, 37, 39)
 Empire Metal Working Co. 76 Fifth av
 Estey, W. S. 65 Fulton (see add p. 24)
 Hecla Architectural Bronze & Iron Works, Poulsen & Eger, Pulitzer bldg. showrooms 48 and 51 (see add p. 28)
 Howard & Morse, 45 Fulton (see add p. 5)
 Jackson, Arch. Iron Works, 315 E. 28th (see add p. 31)
 Jackson, W. H. & Co. 27 E. 17th (see add p. 84)
 Luetke, Oscar, 662-668 Hudson (see add opposite Ninth Ward)
 Lyon, W. E. 202 E. 46th (see add p. 46)
 Murren's, Joseph, Sons, 157 E. 44th
 Muhl, J. & Son, 329 E. 33d (see add p. 50)
 Prince & Kinkel Iron Works, 729-731 First av (see add p. 51)
 Richey, Brown & Donald, 218-224 11th and 20-22 Roebing, Brooklyn (see add p. 47)
 The William R. Pitt Composite Iron Works, 83 Reade
 Thorp & Conlin, Lincoln bldg. 1-3 Union sq c. 14th
 Williams, John, 544-566 W. 27th (see add p. 36)

WROUGHT IRON PIPE AND FITTINGS' DEALERS.

American Tube & Iron Co. 98 John
 American Tube Works, 20 Gold
 Baker, Smith Co. 81 W. Houston
 Barr, Edward Co. The, 78 John
 Beggs, James & Co. 9 Dey
 Black, J. R. 357 W. 40th

Blake & Williams, 197 Wooster (see add p. 65)
 Blessing, George A. & Co. 290 Pearl (see add p. 110)
 Bonner & Van Court, 433-435 W. 42d
 Campbell, Felix, 79 John
 Carr, A. & W. S. Co. The, 138 Centre
 Cassidy & Adler, 190 Sixth av
 Colwell Lead Co. 63 Centre
 Cooke, R. K. 94 Centre
 Cooke & Co. 163 Washington
 Cornell, Hiscox & Underhill, 13 Gold
 Crane Co. 40 Wall
 Crossley, Charles A. 32 Church
 Curran, James, 512 W. 36th
 Dame & Townsend Co. 76 John
 Dimock, Fink & Co 80 John
 Drummond, M. J. 192 Broadway
 Eaton, Cole & Burnham, 82 Fulton
 Gillis & Geoghagan, 33 S. Fifth av
 Greeley, E. S. & Co. 5 Dey
 Haley, J. S. & Co. 57 Elm
 Harris, T. William & Co.
 Haydenville Mfg. Co. 73 Beekman
 Hussey, W. H. 135 W. 37th
 James, Jacob, 84 John
 Jenkins Bros. 71 John
 Johnson & Morris, 114 Leonard
 Keating, Edward F. 75 John
 La Rosa & Co. 41 Dey
 Latrop & Co. 80 John
 Locke, Chas. 106 W. 37th
 McMann, T. R. & Bro. 58 Gold
 McNab & Harlin Mfg. Co. 56 John
 McShane, Henry, Mfg. Co. 625-627 Sixth av (see add p. 108)
 Manning, Maxwell & Moore, 111 Liberty
 Mayor, Lane & Co. 119 Walker
 Motley, T. N. & Co. John st
 Mott, J. L. Iron Works, 88 Beekman
 Nason Mfg. Co. 71 Beekman
 National Tube Works, 160 Broadway
 Nelson & Finkel, 309 E. 10th
 N. Y. Steam Heating Co. 30 Cortlandt
 N. Y. Supply Co. Ltd.
 Pancoast & Rogers, 28 Platt
 Peck Bros. & Co. 47 Cliff
 Pollock, Alexander, 15 Cortlandt
 Ransom & Co. 94 Centre
 Reilly, James, West st
 Roberts, George I. & Bros. 471-473 Fourth av (see add pp. 62-63)
 Rogers, H. A. 19 John
 Ronalds & Co. 54 Cliff
 Rose, Clarence H. 242 Water
 Rutzler, E. 178 Centre
 Sanitas Mfg. Co. 54 Gold
 Simmons, John, 106-110 Centre (see add opposite Tenth Ward)
 Smith, H. B. Co. The, 137 Centre
 Spiral Weld Tube Co. 43 John
 Stone, Fred. & Co. 62 Gold
 Sweeney, M. A.
 Trask & Carmichael, 80 Centre, c. Worth
 United Brass Co.
 Urquhart, J. S. 46 Cortlandt

Waefelaer, L. Co. The, 54 Beekman
 Wells & Contau Co. 78 John

WROUGHT IRON PIPE MFRS.

American Tube & Iron Co. 98 John
 American Tube Works, 20 Gold
 Campbell, Felix, 79 John
 Colwell Lead Co. 63 Centre
 Drummond, M. J. 192 Broadway, Corbin bldg
 Eaton, Cole & Burnham Co. 82 Fulton
 McNab & Harlin Mfg. Co.
 McNeal Pipe & Foundry Co. 52 Wall
 Mott, J. L. Iron Works, 88 Beekman
 National Tube Works Co. 160 Broadway
 Pancoast & Rogers, 28 Platt
 Simmons, John, 110 Centre (see add opposite Tenth Ward)
 Spiral Weld Tube Co. 43 John

WROUGHT IRON WORKERS

Aetna Iron Works, 298-300 E. 64th (see add p. 51)
 Althause, S. B. & Co. 101-103 Thompson (see add p. 27)
 Bowes, John J. 227-229 W. 29th (see add p. 43)
 Carrere & Haas Iron Works, Lincoln bldg. 1-3 Union sq. c. 14th
 Central Iron Works, 203 E. 30th (see add p. 44)
 Cheney & Hewlitt, 38 Park row (see add p. 41)
 Cheney & Preyer, 21 Park row (see add opp. Fifth Ward)
 Clark, Bunnett & Co. 162-164 W. 27th (see add p. 45)
 Conover, J. S. & Co. 28-30 W. 23d (see add p. 85)
 Cornell, J. B. & J. M. 141 Centre and 26th bet. Tenth and Eleventh (see add pp. 35-37-39)
 Dimond, J. G. & T. 1209-211 W. 33d
 Empire Metal Working Co. 76 Fifth av
 Estey, W. S. 65 Fulton (see add p. 24)
 Grimm, Richard, 432 E. 18th

RICHARD GRIMM,

Plain and Ornamental

IRON RAILING WORKS,

Doors, Stairs, Gates, Etc.,

432 EAST 18th STREET,

Bet. 1st Ave. and Ave. A.

NEW YORK.

See Advertisement, page 48.

Hafers, Chris. 407 W. 37th (see add p. 34)
 Hecla Arch. Iron Works, Poulson & Eger, Pulitzer bldg, show rooms, 48-51 (see add p. 28)

Yacht and Ship Plumbing.—Yacht Railings, Wire.—Yacht Trimmings.—Yellow Metal Sheet-
ing.—Zinc Castings.

Hedden, Eugene B. 35 Broadway (see add p. 42)
Howard & Morse, 45 Fulton (see add p. 5)
Jackson Arch. Iron Works, 315 E. 28th (see add p. 31)
Jackson, W. H. & Co. 27 E. 17th (see add p. 84)
Luetke, Oscar, 662-668 Hudson (see add opp. Ninth Ward)
Lyon, W. E. 202 E. 46th (see add p. 46)
Mauren's, Joseph, Sons, 157 E. 44th
Moseley Iron Bridge and Roof Co. 5-7 Dey

Corrugated, Beaded and Clap-Board Iron Roofing and Siding.



Iron Buildings. Roofs, Shutters, Doors, Cornices, Skylights, Bridges, &c.

MOSELEY IRON BRIDGE AND ROOF CO.,
Office, 5 Dey Street, New York.

See Advertisement, page 49.

Muhl, J. & Son, 329 E. 33d (see add p. 50)
New York Sheet Iron Works, 197 Wooster (see add p. 42)
Pitt, William R. (The) Composite Iron Works, 83 Reade
Pollock, Alexander, 15 Cortlandt
Post & McCord, 102 Broadway (see add p. 33)
Prince & Kinkel Iron Works, 729-731 First av (see add p. 51)
Richey, Brown & Donald, 20-22 Roebing, 218-224 N. 11th, Brooklyn (see add p. 47)
Stuetzer, H. & Co. 49-61 Van Pelt av. 474-494 Leonard, Brooklyn, 39 Dey, N. Y. City (see add p. 40)
Thorp & Conlin, Lincoln bldg, 1-3 Union sq. c. 14th
Traitel Bros. 499 Fifth av (see add p. 82)
Union Iron Works, 29 Broadway
Wallis Iron Works, 192 Broadway (see add p. 38)
Westing, Theo. 449-455 W. 41st
Westside Arch. Iron Works, 550-560 W. 33d (see add p. 29)
Williams, John, 544-556 W. 27th (see add p. 36)

YACHT AND SHIP PLUMBERS' SUPPLIES.

Blessing, George A. & Co. 290 Pearl (see add p. 110)
Greene, Tweed & Co. 83 Chambers (see add p. 53)

YACHT AND SHIP PLUMBING.

Butcher, J. H. & Son, 252 Water
O'Crowley, M. F. 138 Broad
Sands, Alfred B. & Son, 134 Beekman

ALFRED B. SANDS & SON,
Yacht, Ship and House Plumbers,
Gas and Steam Fitters.

Manufacturers of Yacht and Ship Water Closets, Bilge, Tank, Deck, Basin and Liquor Pumps. Hand and Deep Sea Leads.

134 BEEKMAN ST., N. Y.
LEAD PIPE, SHEET LEAD & PLUMBERS' MATERIALS.

YACHT RAILINGS, WIRE.

Bataille, Achille, 122 W. Broadway (see add p. 23)
Dewitt Fire Cloth Co. 32 Reade (see add p. 26)
Empire Metal Working Co. 76 Fifth av
Estey, W. S. 65 Fulton (see add p. 24)
Howard & Morse, 45 Fulton (see add p. 5)
McMurray, Robert T. & Bro. 141-143 Centre (see add p. 25)

YACHT TRIMMINGS.

Bockee, John J. 47 Dey
McLugh, John F. 1263 Broadway

YELLOW METAL SHEETING.

Ansonia Brass & Copper Co. 19-21 Cliff
Kahn Bros. 525 E. 19th
New Haven Copper Co. The, 294 Pearl
Plume & Atwood Mfg. Co. 18 Murray
Revere Copper Co. 242 South
Slover & Tyler, 47 South
Taunton Copper Mfg. Co. 232 South
Wallace & Sons, 29 Chambers

ZINC CASTINGS.

Briggs, A. A. 122 E. 129th
Pollock, Alexander, 15 Cortlandt

ZINC STATUARY.

Briggs, A. A. 122 E. 129th
Fiske, J. W. 39 Park pl
Hirt & Hagadon, 279 Avenue B

Mullins, W. H. 108 Chambers, Wagner,
Julius T. manager, (see add opposite
Twenty-third Ward, part 2)
Westervelt, A. B. & W. T. 102 Cham-
bers (see add p. 203)

ZINC, WHOLESALE.

Alburtis, C. W. (broker) 35 Liberty
Ansonia Brass & Copper Co. 19-21 Cliff
Bruce & Cook, (dealers) 186-190 Water
and 248-250 Pearl
Coddington, T. B. & Co. 27 Cliff
Collinsville Zinc Co. 10 Burling slip
Demilt, H. R. & Co. 238 Water
Dickerson, Van Dusen & Co. (whole-
sale dealers) 29-31 Cliff
Friedensville Zinc Co. (mfrs. Bergenport
spelter) 21 State
Illinois Zinc Co. (mfrs.) E. A. Fisher,
agent, 115 Broadway
Lamarche's, H. Sons, 83 John
Lehigh Zinc & Iron Co. (mfrs.) 112 John

Manning & Squires (mfrs. agents), 111
Liberty
Merchant & Co. (wholesale dealers) 247
Pearl
Merry, John & Co. 535-547 W. 15th
(see add p. 66)
Miller, Charles A. 83 Maiden la
Naylor & Co. (dealers) 45 Wall
New Jersey Zinc & Iron Co. (mfrs.) 61
Maiden la
New York Smelting & Refining Co. The
(mfrs. spelter), Jane and West (see
add p.)
Passaic Zinc Co. 111 Liberty
Phelps, Dodge & Co. 11-13 Cliff
Quincy, John W. & Co. 98 William
Taunton Copper Mfg. Co. 232 South
Thomson, A. A. & Co. 215 Water
Wallace & Sons (specialties), 29 Cham-
bers

ZINC WIRE.

Demilt, H. R. & Co. 238 Water

The Plaza of City Hall, New York City,

IS OF

FRENCH ROCK ASPHALTE,

(SEYSSSEL.)

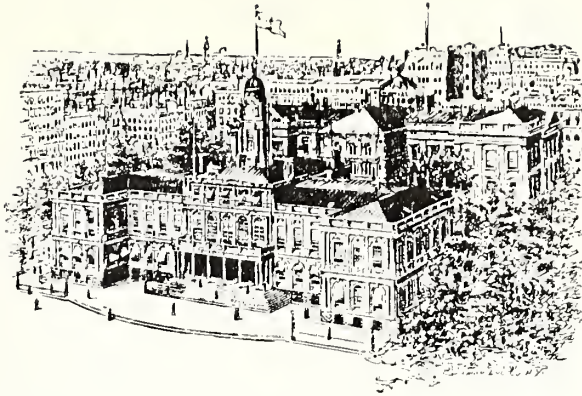
—L—LAID BY—

E. H. WOOTTON, 35 BROADWAY,

AGENT FOR

COMPAGNIE GÉNÉRAL DES ASPHALTES DE FRANCE, LD.,

117 QUAI DE VALMY, PARIS.



OFFICIAL DIRECTORY.

Statement of the hours during which the Public Offices in the city are open for business, and at which the Courts regularly open and adjourn, as well as of the places where such offices are kept and such Courts are held; together with the Heads of Departments and Courts.

EXECUTIVE DEPARTMENT.

MAYOR'S OFFICE.

6 City Hall, 10 A. M. to 4 P. M. Saturdays, 10 A. M. to 12 M.

Hugh J. Grant, Mayor, \$10,000
 Willis Holly, Secretary and Chief Clerk, \$5,000
 George E. Best, Confidential Clerk, \$2,500
 William H. McDonough, Confidential Clerk, \$1,800
 Tilly R. Fell, Stenographer, \$2,000
 Alfred J. Johnson, Stenographer, \$1,600
 J. H. Nagle, Warrant and Bond Clerk, \$1,300

MAYOR'S MARSHAL'S OFFICE.

1 City Hall, 9 A. M. to 4 P. M.

Daniel Engelhard, First Marshal, \$2,500
 Frank Fox, Second Marshal, \$2,000

COMMISSIONERS OF ACCOUNTS.

Rooms 114-115 Stewart bldg., 9 A. M. to 4 P. M.

Michael T. Daly, Commissioner, \$5,000
 Charles G. F. Wahle, Commissioner, \$5,000
 Edward, Owen, Chief Assistant, per month, \$200

BOARD OF ARMORY COMMISSIONERS.

The Mayor, Chairman, no salary.
 President of Department of Taxes and Assessments, Secretary
 Address Edward P. Barker, Staats Zeitung bldg., Tryon row
 Office hours 9 A. M. to 4 P. M., Saturdays, 9 A. M. to 12 M.

AQUEDUCT COMMISSIONERS.

Room 209, Stewart bldg., 5th floor, 9 A. M. to, 4 P. M.

James C. Duane, Commissioner, \$5,000
 John J. Tucker, Commissioner, \$5,000
 Francis M. Scott, Commissioner, \$5,000
 H. W. Cannon, \$5,000; and the Mayor, Comptroller, and Commissioner of Public Works, *Ex-officio*, Commissioners.
 J. C. Lully, Secretary, \$2,500
 A. Fteley, Chief Engineer, \$10,000
 E. A. Wolff, Auditor, \$2,500

LEGISLATIVE DEPARTMENT.

COMMON COUNCIL.

John H. V. Arnold, President Board of Aldermen, \$3,000
 Andrew A. Noonan, Vice-President Board of Aldermen, \$2,000

Aldermen (Salary \$2,000):

Samuel H. Bailey,	William H. Murphy,
Nicholas T. Brown,	Patrick J. O'Beirne,
William Clacey,	David J. Roche,
James A. Cowie,	Frank Rogers,
Peter J. Dooling,	Patrick J. Ryder,
Cornelius Flynn,	Henry L. School,
Horatio S. Harris,	William H. Schott,
Harry C. Hart,	Charles Smith,
Joseph Martin,	Charles J. Smith,
Abraham Mead,	William Tate,
Rollin M. Morgan,	Whitfield Van Cott,
George B. Morris,	Jacob C. Wund.

Michael F. Blake, Clerk of Common Council, \$5,000

David J. Connell, Deputy Clerk, Board of Aldermen, \$2,500

Office of Clerk of Common Council, 8 City Hall. Office hours, 9 A. M. to 4 P. M.

DEPARTMENT OF BUILDINGS.**NEW YORK CITY.**

Headquarters: 220 Fourth avenue, S. W. cor. 18th street. Office hours from 9 A. M. to 5 P. M.

Thomas J. Brady, Superintendent	\$5,000
Enoch Vreeland, 1st Deputy Superint'dt.	3,000
Isaac J. Mackinley, 2d Dep'y Superint'dt.	3,000
John R. Shields, Chief Clerk	2,500
John J. Tindale, Plan Clerk	2,000
John M. Paige, Assistant Plan Clerk . . .	1,200
William H. Class, Fire-escape and Violation Clerk	1,700
William Dodge, Clerk	1,500
William H. James, Clerk	1,500
Michael Reidy, Clerk	1,500
Edward S. Seofield, Clerk	1,500
James J. Carroll, Clerk	1,400
Franklin P. Duffey, Clerk	1,400
Thomas J. McCabe, Clerk	1,200
Samuel Friedsam, Clerk	1,000
Thomas Kelly, Clerk	1,000
George E. La Faye, Jr., Clerk	1,000
Washington Parker, Clerk	1,000
William Sauer, Clerk	1,000
Edward Ledwith, Clerk	900
George Morgan, Clerk	900
James Salmon, Messenger	1,000

BUREAU OF PLUMBING AND VENTILATION.

Col. George D. Scott, Chief Inspector. . . \$3,000

OFFICE OF THE ATTORNEY AND COUNSEL.

Eugene Otterbourg, Attorney and Counsel.
 Samuel J. Parmenter, Assistant.
 John D. Quincy, Assistant.
 John M. Tierney, Assistant.
 Joseph I. McKeon, Assistant.
 John H. Hannan, Managing Clerk.

BOARD OF EXAMINERS. DEPARTMENT OF BUILDINGS.

Thomas J. Brady, Sup't of Buildings, 220 Fourth avenue.
 W. A. Conover, 14 Vesey.
 Edwin Dobbs, 14 Vesey.
 W. J. Freyer, 19 Broadway.
 N. Le Brun, 50 Broadway.
 John A. Murray, 115 Broadway.
 Cornelius O'Reilly, 123 E. 44th.
 Samuel McMillan, 247 Central Park, West.
 Hugh Bonner, Chief of Finance Department, 157-159 E. 67th

DEPARTMENT OF PUBLIC WORKS.**COMMISSIONER'S OFFICE.**

31 Chambers, 9 A. M. to 4 P. M.

Thomas F. Gilroy, Commissioner, \$8,000
 Maurice F. Holahan, Deputy Commissioner, \$6,000
 Thomas B. Coman, Stenographer, \$1,800

BUREAU OF CHIEF ENGINEER.

31 Chambers, 9 A. M. to 4 P. M.

George W. Birdsall, Chief Engineer, \$7,000

BUREAU OF WATER REGISTER.

31 Chambers, 9 A. M. to 4 P. M.

Joseph Riley, Register, \$4,000

BUREAU OF STREET IMPROVEMENTS.

31 Chambers, 9 A. M. to 4 P. M.

William M. Dean, Superintendent, \$2,750

OFFICE OF ENGINEER IN CHARGE OF SEWERS.

31 Chambers, 9 A. M. to 4 P. M.

Horace Loomis, Engineer in Charge, \$4,800

BUREAU OF REPAIRS AND SUPPLIES.

31 Chambers, 9 A. M. to 4 P. M.

William G. Bergen, Superintendent, \$2,750

BUREAU OF WATER PURVEYOR.

31 Chambers, 9 A. M. to 4 P. M.

William H. Burke, Water Purveyor, \$3,000

BUREAU OF LAMPS AND GAS.

31 Chambers, 9 A. M. to 4 P. M.

Stephen McCormick, Superintendent, \$2,750

BUREAU OF STREETS AND ROADS.

31 Chambers, 9 A. M. to 4 P. M.

John J. Ryan, Superintendent, \$2,750

BUREAU OF INCUMBRANCES.

31 Chambers, 9 A. M. to 4 P. M.

Michael T. Cummings, Superintendent, \$2,750

KEEPER OF CITY HALL.

Martin J. Keese, City Hall, \$1,100

DEPARTMENT OF STREET IMPROVEMENTS.**23D AND 24TH WARDS.**

2622 Third av, N. E. cor. 141st, 9 A. M. to 4 P. M., Saturdays, 9 A. M. to 12 M.

Louis J. Heintz, Commissioner, \$5,000
 John H. J. Ronner, Deputy Commissioner, \$3,500
 William H. Ten Eyck, Secretary, \$3,000
 John Osborne, jr. General Bookkeeper, \$2,400
 George H. Dyer, Clerk, \$1,500
 Edward, Ryan, Stenographer, per month, \$75

FINANCE DEPARTMENT,**COMPTROLLER'S OFFICE.**

15 Stewart bldg. Chambers and Broadway, 9 A. M. to 4 P. M.

Theodore W. Myers, Comptroller, \$10,000
 Richard A. Storrs, Deputy Comptroller, \$7,000
 D. Lowber Smith, Asst Deputy Comptroller, \$4,000
 Howland B. Hall, Stenographer and Type Writer, \$1,250

AUDITING BUREAU.

19, 21, 23 Stewart bldg., Chambers and Broadway, 9 A. M. to 4 P. M.

William J. Lyon, First Auditor, \$4,500
David E. Austen, Second Auditor, \$3,250

BUREAU FOR THE COLLECTION OF ASSESSMENTS AND ARREARS OF TAXES AND ASSESSMENTS AND OF WATER RENTS.

31, 33, 35, 37, 39 Stewart Bldg, Chambers & Broadway, 9 A. M. to 4 P. M.

Osborne Macdaniel, Collector of Assessments and Clerk of Arrears, \$4,500
Charles P. Chipps, Ass't Collector of Assessments and Clerk of Arrears and Bookkeeper, \$2,250

No money received after 2 P. M.

BUREAU FOR THE COLLECTION OF CITY REVENUE AND OF MARKETS.

1 and 3 Stewart Bldg, Chambers & Broadway, 9 A. M. to 4 P. M.

John A. Sullivan, Collector of City Revenue and Superintendent of Markets, \$4,500
No money received after 2 P. M.

BUREAU FOR THE COLLECTION OF TAXES.

57 Chambers and 35 Reade, Stewart Bldg, 9 A. M. to 4 P. M.

George W. McLean, Receiver of Taxes, \$4,000
Alfred Vredenburg, Deputy Receiver of Taxes, \$3,500

No money received after 2 P. M.

BUREAU OF CITY CHAMBERLAIN.

25-27 Stewart Bldg. Broadway & Chambers, 9 A. M. to 4 P. M.

Thomas C. T. Crain, City Chamberlain, \$25,000

"The Chamberlain shall receive the sum of twenty-five thousand dollars annually and no more, for all services as Chamberlain of said City and as County Treasurer for the County of New York, in lieu of salary and of all interest, fees, commissions, and emoluments; and all such interest, fees, commissions, and emoluments shall be accounted for and paid over by him to the City Treasury, except that the commissions or compensation provided by law and received by him for receiving and paying over the State taxes and all interest which accrues on deposits shall be paid by him to the Commissioners of the Sinking Fund. He may appoint and remove, at pleasure, a deputy chamberlain and such clerks and assistants as may be necessary, whose salaries, together with all the expenses of his office, shall be paid wholly by him, and shall in no case be a public charge."—[Section 165, New York City Consolidation Act of 1882.]

OFFICE OF THE CITY PAYMASTER.

33 Reade, Stewart Bldg, 9 A. M. to 4 P. M.

John H. Timmerman, City Paymaster

LAW DEPARTMENT.**OFFICE OF THE COUNSEL TO THE CORPORATION.**

Staats Zeitung Building, 3d and 4th Floors, 9 A. M. to 5 P. M. Saturdays 9 A. M. to 12 M.

William H. Clark, Counsel to the Corporation, \$12,000

Andrew T. Campbell, Chief Clerk, \$5,000

OFFICE OF THE PUBLIC ADMINISTRATOR.

49 Beekman, 9 A. M. to 4 P. M.

Charles E. Lydecker, Public Administrator, \$4,000

Frank W. Arnold, Ass't to the Administrator, \$2,400

OFFICE OF ATTORNEY FOR COLLECTION OF ARREARS OF PERSONAL TAXES.

Stewart Building, Broadway & Chambers, 9 A. M. to 4 P. M.

John G. H. Meyers, Attorney, \$4,000

Michael J. Dougherty, Clerk, \$1,500

OFFICE OF THE CORPORATION ATTORNEY.

49 Beekman, 9 A. M. to 4 P. M.

Louis Hanneman, Corporation Attorney, \$4,000

POLICE DEPARTMENT.**CENTRAL OFFICE.**

300 Mulberry, 9 A. M. to 4 P. M.

James J. Martin, President, \$5,000

Commissioners—Charles F. MacLean, John McClave, John C. Sheehan. Salary, \$5,000 each

William H. Kipp, Chief Clerk, \$5,000

T. F. Rodenburgh, Chief of Bureau of Elections, \$4,000

DEPARTMENT OF CHARITIES AND CORRECTION.**CENTRAL OFFICE.**

66 Third av cor. 11th st. 9 A. M. to 4 P. M.

Henry H. Porter, President, \$5,000

Commissioners—Charles E. Simmons, M. D.,

Edward C. Sheehy. Salary, \$5,000 each

Geo. F. Britton, Secretary, \$2,300

PURCHASING AGENT.

66 Third av. cor. 11th st. 9 A. M. to 4 P. M. Saturdays, 12 M.

Frederick A. Cushman, \$3,000

PLANS AND SPECIFICATIONS, CONTRACTS, PROPOSALS AND ESTIMATES FOR WORK AND MATERIALS FOR BUILDINGS, REPAIRS AND SUPPLIES, BILLS AND ACCOUNTS.

66 Third av. cor. 11th st. 9 A. M. to 4 P. M. Saturdays, 12 M.

Charles Benn, General Bookkeeper, \$3,000

OUT-DOOR POOR DEPARTMENT.

66 Third av. cor. 11th st. 8:30 A. M. to 4:30 P. M.
(Entrance on 11th st.)

William Blake, Superintendent, \$3,000

FIRE DEPARTMENT.

HEADQUARTERS, 157-159 E. 67th.

Office hours for all, except where otherwise noted, from 9 A. M. to 4 P. M. Saturdays, 12 M.

Henry D. Purroy, President
Commissioners—S. Howland Robbins, Anthony Eickhoff. Salary, \$5,000 each
Carl Jussen, Secretary, \$5,000
Paul Jones, Stenographer and Type Writer, \$1,500

BUREAU OF CHIEF OF DEPARTMENT.
Hugh Bonner, Chief of Department, \$5,000

BUREAU OF INSPECTOR OF COMBUSTIBLES.

Peter Seery, Inspector of Combustibles, \$3,000

BUREAU OF FIRE MARSHALL.

James Mitchel, Fire Marshall, \$3,000

ATTORNEY TO FIRE DEPARTMENT.

William L. Findley, Attorney, \$4,000

FIRE ALARM TELEGRAPH.

J. Elliott Smith, Superintendent, \$3,500
(Central Office open at all hours.)

HARLEM RIVER BRIDGE COMMISSION.
Washington bldg. 1 Broadway.

HEALTH DEPARTMENT.

301 Mott, 9 A. M. to 4 P. M.

Charles G. Wilson, President, \$5,000
Joseph D. Bryant, M. D., Commissioner, \$4,000
James J. Martin, Health Officer of the Port, Commissioners *ex officio*
Emmons Clark, Secretary, \$4,800
Martha W. Allason, Stenographer, \$1,000

DEPARTMENT OF PUBLIC PARKS.

Emigrant Industrial Savings Bank Bldg. 49-51 Chambers, 9 A. M. to 4 P. M. Saturdays, 12 M.

Paul Dana, President, \$5,000
Commissioners—Albert Gallup, Abraham B. Tappan, Nathan Straus. No Salary
Charles De F. Burns, Secretary, \$4,000

DEPARTMENT OF DOCKS.

Battery, Pier A, North River.

J. Sergeant Crane, President, \$5,000
Commissioners—Edwin A. Post, James J. Phelan. Salary, \$5,000 each
Augustus T. Docharty, Secretary, \$4,800
Webster H. Gilon, Stenographer, \$1,500

DEPARTMENT OF TAXES AND ASSESSMENTS.

Staats Zeitung Bldg, Tryon Row, 9 A. M. to 4 P. M. Saturdays, 12 M.

Edward P. Barker, President, \$5,000
Commissioners—Thomas L. Feitner, Edward L. Parris. Salary, \$4,000 each
Floyd T. Smith, Secretary, \$3,000

DEPARTMENT OF STREET CLEANING.

Stewart Bldg, Broadway & Chambers, 9 A. M. to 4 P. M.

Thomas S. Brennan Commissioner, \$6,000
William Dalton, Deputy Commissioner, \$4,000
J. Joseph Scully, Chief Clerk, \$2,800
Stenographers and Type Writers—J. H. Havrah, J. S. McCann, Salary \$1,200 each

CIVIL SERVICE SUPERVISORY AND EXAMINING BOARDS.

Cooper Union, 9 A. M. to 4 P. M.

James Thomson, Chairman, No Salary
Members of the Supervisory Board—William H. Field, Henry Marquand, No Salary
Lee Phillips, Secretary and Executive Officer, \$4,500

BOARD OF ESTIMATE AND APPORTIONMENT.

The Mayor, Chairman, No Salary
Members—E. P. Barker, Pres. of the Dept. of Taxes and Assessments, Theodore W. Myers, Comptroller, John H. V. Arnold, Pres. Board of Aldermen, No Salary
Charles V. Adey, Clerk, \$3,000
Office of Clerk, Staats Zeitung Bldg, Room 5

BOARD OF ASSESSORS.

Office, 27 Chambers, 9 A. M. to 4 P. M.

Edward Gilon, Chairman, \$3,000
Edward Cahill, Charles E. Wendt, Patrick M. Havery. Salary, \$3,000 each
William H. Jasper, Secretary, \$2,800

BOARD OF EXCISE.

54 Bond, 9 A. M. to 4 P. M.

Commissioners—Joseph Koch, Leicester Holme, William S. Andrews. Salary, \$5,000 each
James F. Bishop, Secretary, \$3,000

SHERIFF'S OFFICE.

6 & 7 New County Court House, 9 A. M. to 4 P. M.

John J. Gorman, Sheriff, $\frac{1}{2}$ Fees and \$12,000
John B Sexton, Under Sheriff, \$5,000
William E. Stillings, Counsel, \$6,000
Fidele A. Driscoll, Stenographer, \$780

REGISTER'S OFFICE.

East Side City Hall Park, 9 A. M. to 4 P. M.

Frank T. Fitzgerald, Register, \$12,000
John Von Glahn, Deputy Register, \$5,000
John E. Fitzgerald, Asst. Deputy Register, \$3,000

SUPERIOR COURT.

Third Floor New County Court House. Opens 11 A. M., adjourns 4 P. M.

General Term.....	Room 35
Special ".....	" 33
Equity ".....	" 30
Chambers.....	" 33
Part 1.....	" 34
" 2.....	" 35
" 3.....	" 36
Naturalization Bureau.....	" 31
Clerks' Office, 9 A. M. to 4 P. M.....	" 31

John Sedgwick, Chief Judge.....	\$15,000
John J. Freedman, ".....	15,000
Charles H. Truax, ".....	15,000
P. Henry Dugro, ".....	15,000
David McAdam, ".....	15,000
Henry A. Gildersleeve, ".....	15,000
Thomas Boese, Chief Clerk.....	6,000
Willis P. Miner, Deputy Clerk.....	2,000
J. H. Hobart Ward, Special Deputy Clerk.....	2,500
Henry M. Parkhurst, Stenographer..	2,500
James E. Munson, ".....	2,500
Edwin M. Robbins, ".....	2,500
Bertram L. Dusenbury, ".....	2,500
Bartholomew Moynahan, ".....	2,500

BOARD OF CITY RECORD.

William J. K. Kenny, Supervisor.....	\$5,000
David Ryan, Assistant ".....	2,500
John J. McGrath, Examiner.....	1,400
Washington H. Hettler, Storekeeper and Messenger.....	1,200

CORONERS' OFFICE.

Ferdinand Levy, Coroner.....	\$5,000
M. J. B. Messemer, ".....	5,000
Louis W. Shultz, ".....	5,000
Daniel Hanly, ".....	5,000
Wm. T. Jenkins, Coroner's Physician..	3,000
William A. Conway, ".....	3,000
Albert T. Weston, ".....	3,000
Philip E. Donlin, ".....	3,000
Edward F. Reynolds, Clerk of the Board of Coroners.....	3,500
George Strassner, Stenographer.....	2,500

BOARD OF POLICE JUSTICES.

Patriek Divver, Police Justice.....	\$8,000
Patriek G. Duffy, ".....	8,000
J. Henry Ford, ".....	8,000
Thomas F. Grady, ".....	8,000
Edward Hogan, ".....	8,000
John E. Kelly, ".....	8,000
James T. Kilbreth, ".....	8,000
Clarence W. Meade, ".....	8,000
Daniel F. McMahon, ".....	8,000
Daniel O'Reilly, ".....	8,000
John J. Ryan, ".....	8,000
Solon B. Smith, ".....	8,000
Charles N. Taintor, ".....	8,000
Charles Welde, ".....	8,000
Andrew J. White, ".....	8,000
George W. Cregier, Secretary.....	1,000
Waterman T. Ormsby, Jr., Stenographer.	2,000
David C. Seltman, ".....	2,000
Michael J. Treacy, ".....	2,000
George Zieger, ".....	2,000

DISTRICT CIVIL COURTS.

FIRST JUDICIAL DISTRICT.

First District—Third, Fifth and Eighth Wards, and all that part of the First Ward lying west of Broadway and Whitehall street. Court-room, southwest corner of Centre and Chambers. Clerk's Office open from 9 A. M. to 4 P. M.

Wanhope Lynn, Justice.....	\$6,000
Louis C. Bruns, Clerk.....	3,000
John Purcell, Assistant Clerk.....	3,000
William W. Vaughn, Stenographer....	2,000
Bruno Boek, Interpreter.....	1,200

SECOND JUDICIAL DISTRICT.

Second District—Second, Fourth, Sixth and Fourteenth Wards, and all that portion of the First Ward lying south and east of Broadway and Whitehall street. Court-room, corner of Grand and Centre streets. Clerk's Office open from 9 A. M. to 4 P. M.

Charles M. Clancy, Justice.....	\$6,000
James Dumphy, Clerk.....	3,000
Francis Mangin, Assistant Clerk.....	3,000
Samuel Wolf, Stenographer.....	2,000
Diedrich Knabe, Interpreter.....	1,200

THIRD JUDICIAL DISTRICT.

Third District—Ninth and Fifteenth Wards. Court-room, southwest corner Sixth avenue and West 10th street. Court open daily (Sundays and legal holidays excepted) from 9 A. M. to 4 P. M.

William F. Moore, Justice.....	\$6,000
William H. Corsa, Clerk.....	3,000
Daniel Williams, Assistant Clerk.....	3,000
Michael J. Kelly, Stenographer.....	2,000
Joseph Weill, Interpreter.....	1,200

FOURTH JUDICIAL DISTRICT.

Fourth District—Tenth and Seventeenth Wards. Court-room, No. 30 First street, corner Second avenue. Court opens 9 A. M. daily, and remains open to close of business.

Alfred Steckler, Justice.....	\$6,000
Julius Harburger, Clerk.....	3,000
David Lyon, Assistant Clerk.....	3,000
Caleb H. Redfern, Stenographer.....	2,000
Jacob Guthorn, Interpreter.....	1,200

FIFTH JUDICIAL DISTRICT.

Fifth District—Seventh, Eleventh and Thirteenth Wards. Court-room, No. 154 Clinton street.

Henry M. Goldfogle, Justice.....	\$6,000
John Duane, Jr., Clerk.....	3,000
James H. Shields, Assistant Clerk.....	3,000
Arthur F. Ducret, Stenographer.....	2,000
Jacob Katz, Interpreter.....	1,200

SIXTH JUDICIAL DISTRICT.

Sixth District—Eighteenth and Twenty-first Wards. Court-room, No. 61 Union place, Fourth avenue, southwest corner of Eighteenth street. Court opens 9 A. M. daily; continues open to close of business.

Samson Laelman, Justice.....	\$6,000
Philip Ahern, Clerk.....	3,000
Abraham Bernard, Assistant Clerk.....	3,000
James A. Gill, Stenographer.....	2,000
George G. Banzer, Interpreter.....	1,200

SEVENTH JUDICIAL DISTRICT.

Seventh District—Nineteenth Ward. Court-room, No. 151 East Fifty-seventh street. Court opens every morning at 9 o'clock (except Sundays and legal holidays), and continues open to the close of business.

John B. McKean, Justice.....	\$6,000
Sylvester E. Nolan, Clerk.....	3,000
Patrick McDavitt, Assistant Clerk.....	3,000
George A. Moulton, Stenographer.....	2,000
Frederick Fischer, Interpreter.....	1,200

EIGHTH JUDICIAL DISTRICT.

Eighth District—Sixteenth and Twentieth Wards. Court-room, southwest corner of Twenty-second street and Seventh avenue. Court opens at 9 A. M. and continues open to close of business. Clerk's office open from 9 A. M. to 4 P. M. each court day. Trial days, Wednesdays, Fridays and Saturdays. Return days, Tuesdays, Thursdays and Saturdays.

John Jerolomon, Justice.....	\$6,000
Carson G. Archibald, Clerk.....	3,000
Thomas Costigan, Assistant Clerk.....	3,000
Thomas W. Osborne, Stenographer.....	2,000
Robert J. Cook, Interpreter.....	1,200

NINTH JUDICIAL DISTRICT.

Ninth District—Twelfth Ward, except all that portion of the said ward which is bounded on the north by the center line of One Hundred and Tenth street, on the south by the center line of Eighty-sixth street, on the east by the center line of Sixth avenue, and on the west by the North river. Court-room, No. 150 East One Hundred and Twenty-fifth street. Clerk's office open daily from 9 A. M. to 4 P. M. Trial days, Tuesdays and Fridays. Court opens at 9½ A. M.

Joseph P. Fallon, Justice.....	\$6,000
William H. Liscomb, Clerk.....	3,000
John Z. Munzinger, Assistant Clerk.....	3,000
Evan S. Webster, Stenographer.....	2,000
John Elheiss, Interpreter.....	1,200

TENTH JUDICIAL DISTRICT.

Tenth District—Twenty-Third and Twenty-fourth Wards. Court-room, corner of Third avenue and One Hundred and Fifty-eighth street. Office hours, from 9 A. M. to 4 P. M. Court opens at 9 A. M.

William G. McCrea, Justice.....	\$6,000
William H. Germaine, Clerk.....	3,000
Richard D. Hamilton, Assistant Clerk...	3,000
Charles F. Tinkham, Stenographer.....	2,000
Francis A. Schilling, Interpreter.....	1,200

ELEVENTH JUDICIAL DISTRICT.

Eleventh District—Twenty-second Ward, and all that portion of the Twelfth Ward which is bounded on the north by the center line of One Hundred and Tenth street, on the south by the center line of Eighty-sixth street, on the east by the center line of Sixth avenue, and on the west by the North river. Court-room, No. 919 Eighth avenue. Court open daily (Sundays and legal holidays excepted) from 9 A. M. to 4 P. M.

Thomas E. Murray, Justice.....	\$6,000
James J. Galligan, Clerk.....	3,000
Hugh Grant, Assistant Clerk.....	3,000
Henry G. Smith, Stenographer.....	2,000
Martin Senger, Interpreter.....	1,200

COURTS OF OYER AND TERMINER AND GENERAL SESSIONS.

32 Chambers. Court open 11 A. M.

Frederick Smyth, Recorder.....	\$12,000
Rufus Cowing, City Judge.....	12,000
Randolph B. Martine, Judge.....	12,000
James Fitzgerald, Judge.....	12,000
John F. Carroll, Clerk General Sessions and Oyer and Terminer.....	7,000
Edward J. Hall, Deputy Clerk General Sessions and Oyer and Terminer....	5,000
William N. Penney, Assistant Clerk General Sessions.....	3,000
William Anderson, Stenographer.....	2,500
Frank S. Beard, ".....	2,500
Peter B. McLaughlin, ".....	2,500

SUPREME COURT.

Second Floor New County Court House. Opens at 10.30 A. M.

Charles H. Van Brunt, Presiding Justice.....	\$11,500
George L. Ingraham, Justice.....	11,500
Abraham R. Lawrence, ".....	11,500
George C. Barrett, ".....	11,500
George P. Andrews, ".....	11,500
Edward Patterson, ".....	11,500
Morgan J. O'Brien, ".....	11,500
Edward J. Stapleton, Law Clerk.....	3,500
George H. Fairbach, Equity Clerk....	3,500
William Lamb, jr., Clerk General Term	2,000
Hugh Donnelly, Clerk Special Term, Part I.....	2,000
William J. Hill, Clerk Special Term, Part II.....	2,000
Ambrose O. McCall, Clerk Chambers...	2,000
Walter A. Brady, Clerk Circuit, Part 1,	2,000
John B. McGoldrich, Clerk Circuit, Part 2.....	2,000
George F. Lyon, Clerk Circuit, Part 3..	2,000
J. Lewis Lyon, Clerk Circuit, Part 4....	2,000
John S. Hill, Recording Clerk.....	1,500
John Weiss, ".....	1,500
James R. Kiernan, Clerk Chambers Records.....	1,200
William H. Rickets, Crier.....	2,500
Robert Bonyng, Stenographer.....	2,500
Charles B. Collar, ".....	2,500
Robert Macklin, ".....	2,500
William F. Bonyng, ".....	2,500
Frederick D. Storey, ".....	2,500
James J. Nealis, ".....	2,500
Edwin A. Kingsley, ".....	2,500
William A. Donnell, ".....	2,500

COUNTY CLERK'S OFFICE.

7 and 8 New County Court House. 9 A. M. to 4 P. M.

William J. McKenna, County Clerk....	\$15,000
J. Joseph Scully, Deputy County Clerk.	5,000
John A. Wrede, Cashier.....	2,250
William H. Homidge, Judgment Roll Docket and Assistant Law Clerk.....	2,250
Thomas F. Penny, Certificate Clerk....	2,250
Patrick Curley, Clerk of Records and Recording Index Clerk.....	2,000
Timothy J. Donohue, Transcript Docket Clerk.....	1,200
Henry M. Jennings, Mechanics' Lien Docket Clerk.....	1,200
John H. Conway, Lisdens Docket Clerk.....	1,200
Michael J. Deery, Comparing Clerk....	1,400
James B. F. Smith, ".....	1,400
Maurice S. DeVries, Docket Comparing Clerk.....	1,200
Julius Weber, Limited Partnership Clerk	1,200
Joseph L. Haskin, Chief Recording Clerk	1,200

COURT OF COMMON PLEAS.

3d Floor New County Court House. 9 A. M. to 4 P. M.

Joseph F. Daly, Chief Judge.....	\$15,000
Miles Beach, Judge.....	15,000
Henry W. Bookstaver, Judge.....	15,000
Henry Bischoff, jr., ".....	15,000
Roger A. Prior, ".....	15,000
Leonard A. Giegerich, ".....	15,000

Samuel Jones, Clerk.....	\$4,500
Joseph P. Coe, Deputy Clerk.....	2,500
William P. Richardson, Ass't Clerk.....	2,500
Albert C. Cochran, Stenographer.....	2,500
Clifton B. Ball, ".....	2,500
John Cotter, ".....	2,500
John Standfast, ".....	2,500

CITY COURT OF NEW YORK.

City Hall.

Simon L. Ehrlich, Chief Justice.....	\$10,000
Henry P. McGown, Justice.....	10,000
Robt. A. Van Wyck, ".....	10,000
Jas. M. Fitzsimmons, ".....	10,000
Jos. E. Newburger, ".....	10,000
John H. McCarthy, ".....	10,000
James P. Keating, Clerk.....	3,000
Frederick J. Warburton, Stenographer,	2,500
Farrell O'Dowd, ".....	2,500
Charles L. Guy, ".....	2,500
John R. Potts, ".....	2,500

COURT OF SPECIAL SESSIONS.

At Tombs, cor. Franklin & Centre, Daily at 10:30 A. M.,
Excepting Saturday.

John F. Carroll, Clerk.....	\$6,000
James Fitzpatrick, Deputy Clerk.....	5,000
David S. Veitch, Stenographer.....	2,500
Gustave St. Albe, Interpreter.....	2,000

SURROGATE'S OFFICE.

New County Court House. Court opens at 10:30 A. M.

Rastus S. Ransom, Surrogate.....	\$15,000
William V. Leary, Chief Clerk.....	7,000
Porte V. Ransom, First Law Asst. to Surrogate.....	4,000
Thomas B. Casey, Second Law Asst. to Surrogate.....	3,000
Edward W. Bonyng, Deputy Chief Clerk.....	4,000
James F. McLaughlin, Clerk of Court..	4,000
Ernest A. Wolff, Deputy ".....	2,000
Edward F. Underhill, Stenographer....	3,000
Wayland Turner, Asst. ".....	1,500
Bernard J. Tinney, Probate Clerk.....	4,000
Bryan P. Henry, Asst. ".....	1,500
Benjamin A. Jackson, Interpreter.....	2,000
C. B. Lorenze, Surrogate's Stenograp'r..	1,400
Mortimer F. Shea, Accounting Clerk....	1,800
Thomas F. O'Brien, Asst. ".....	1,600
John A. O'Brien, Administration Cl'k..	2,500
George F. Scannell, First Asst. Admin- istration Clerk.....	1,800
John P. Cahill, Second Asst. Adminis- tration Clerk.....	1,200
Benjamin P. Dall, Supt. of Recording Clerks.....	1,800
William H. Down, Supt. of Records....	1,500
William H. Hogan, Guardian Acc't Clerk.....	1,500
William H. McIntyre, Calendar Clerk and Supt. of Supplies.....	2,000
David Doren, Index Clerk.....	1,500
John T. Mooney, Guardian Clerk.....	1,200

DISTRICT ATTORNEY'S OFFICE.

Second Floor, Brown Stone Building, City Hall Park, 9
A. M. to 4 P. M.

De Lancey Nicoll, District Attorney....	\$12,000
Barton S. Weeks, Asst. Dist. Att'ney...	7,500
Vernon M. David, ".....	7,500
McKenzie Semple, ".....	7,500
Francis L. Wellman, ".....	7,500
Gunning S. Bedford, ".....	7,500
Henry B. B. Stapler, ".....	7,500
Henry D. Macdona, Chief Deputy Asst.	5,000
John D. Lindsay, ".....	4,500
John F. McIntyre, ".....	4,000
Wauhope Lynn, ".....	4,000
Robert Townsend, ".....	3,500
David Welch, ".....	3,500
Charles E. Simms, jr., ".....	3,500
Henry W. Unger, Sec'y & Dep'y Asst..	3,000
Edward T. Flynn, Chief Clerk.....	3,800
Harry W. Illwitzer, Dep'y Chief Cl'k. .	2,000
Charles J. Gossweiler, Grand Jury Cl'k.	1,300
Edward J. Shalvey, Asst. Bail and Par- don Clerk.....	1,200
Francis J. Keenan, Stenographer.....	1,200

OFFICE OF THE COMMISSIONER OF JURORS.

Room 127, Stewart Building, Chambers & Broadway, 9
A. M. to 4 P. M.

Bernard F. Martin, Commissioner.....	\$5,000
James E. Connor, Dep'y ".....	2,200
Frederick O'Byrne, Asst. Dep'y Com'r..	1,600
John F. Casey, Register.....	1,500
Andrew Doyle, Canvasser.....	1,400

NATIONAL GUARD, STATE OF NEW YORK.

George W. Brown, Armorer, 7th Regt., per day, \$4.00	
Thomas A. Murphy, Armorer, 8th Regt, per day, \$4.00	
George W. Hill, Armorer, 9th Regt., per day, \$4.00	
George Wylie, Armorer, 12th Reg't, per day, \$4.00	
James M. Flood, Armorer, 22d Reg't, per day, \$4.00	
Timothy Carr, Armorer, 69th Reg't, per day, \$4.00	
Ambrose H. Clayton, Armorer, 71st Reg't, per day, \$4.00	
John G. Jansen, Armorer, 1st Battery, per day, \$4.00	
George H. Bennett, Armorer, 2d Battery, per day, \$4.00	
Frank L. Aber, Armorer, Troop A, per day, \$4.00	

GAS COMMISSION.

Hugh J. Grant, Mayor.....	No Salary
Theo. W. Myers, Comptroller.....	" "
Thomas F. Gilroy, Commissioner of Public Works.....	" "
Stephen McCormick, Supt. of Lamps and Gas, Sec'y.....	" "

BOARD OF REVISION AND CORRECTION OF ASSESSMENTS.

Theo. W. Myers, Comptroller.....No Salary
 William H. Clark, Counsel to the Corporation.....“ “
 Frederick Smyth, Recorder.....\$1,000
 Richard A. Storrs, Chief Clerk.....No Salary

INSPECTORS AND SEALERS OF WEIGHTS AND MEASURES.

Henry B. Masterson, Inspector 1st Dist..\$1,200
 Michael Hahn, “ 2d Dist.. 1,200
 Samuel R. Porter, jr., Sealer 1st Dist.... 1,000
 John N. Bogert, “ 2d Dist.... 1,000

BOARD OF STREET OPENING AND IMPROVEMENT.

Hugh J. Grant, Mayor.....No Salary
 Theo. W. Myers, Comptroller.....“ “
 Thomas F. Gilroy, Commissioner of Public Works.....“ “
 Albert Gallup, Commissioner of Parks.....“ “
 John H. V. Arnold, Pres. of Board of Aldermen.....“ “
 V. B. Livingston, Secretary.....\$1,500

COMMISSIONERS OF THE SINKING FUND.

Hugh J. Grant, Mayor.....No Salary
 Frederick Smyth, Recorder.....\$1,000
 Theo. W. Myers, Comptroller..... 1,000
 Thomas C. T. Crain, Chamberlain...No Salary
 Nicholas T. Brown, Chairman Finance Committee Board of Aldermen.....“ “
 Richard A. Storrs, Secretary.“ “

BUREAU OF ELECTIONS.

T. F. Rodenburgh, Chief of Bureau....\$4,000

BOARD OF COMMISSIONERS FOR THE ERECTION OF A NEW MUNICIPAL BUILDING.

Constituted by Chapter 81, Laws of 1889.

Hugh J. Grant, Mayor.....No Salary
 Frederick Smyth, Recorder.....“ “
 Theo. W. Myers, Comptroller.....“ “
 Thomas C. T. Crain, Chamberlain...“ “
 Nicholas T. Brown, Chairman Committee on Finance Board of Aldermen.....“ “
 Leonard A. Giegerich, County Clerk, Frank T. Fitzgerald, Register.....“ “
 Rastus S. Ransom, Surrogate.....“ “
 Richard A. Storrs, Secretary.....“ “

BOARD OF EDUCATION.

Corner Grand and Elm Streets.

John L. N. Hunt, President No Salary
 Thaddius Moriarity, Commissioner...“ “
 Edward J. H. Tamsen, “ “ “
 Miles M. O'Brien, “ “ “
 Edward H. Peaslee, “ “ “
 Mrs. Sarah H. Powell, “ “ “
 Adolph L. Sanger, “ “ “
 Robert Maelay, “ “ “
 Mrs. Clara M. Williams, “ “ “
 James W. Girard, “ “ “
 Randolph Guggenheimer, “ “ “
 William Lummis, “ “ “
 Charles B. Hubbell, “ “ “
 Charles Strauss, “ “ “
 R. Duncan Harris, “ “ “
 Sam'l M. Purdy, “ “ “
 Charles L. Holt, “ “ “
 Joseph J. Little, “ “ “
 James W. McBarren “ “ “
 Dana H. King, jr., “ “ “
 W. H. Gray, “ “ “
 Arthur McMullen, Clerk.....\$4,500
 George T. Balch, Auditor..... 3,000
 Chas. B. J. Snyder, Supt. School Buildings..... 6,000
 Wm. McManus, Engineers' Asst..... 1,800
 John Jasper, City Supt. of Schools..... 7,500

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— L A W S —

RELATING TO THE

CONSTRUCTION OF BUILDINGS

— IN THE —

CITY OF NEW YORK.

AS AMENDED TO 1892.

CHAPTER 275.

AN ACT to create a department of buildings in the city of New York and to amend chapter four hundred and ten of the laws of eighteen hundred and eighty-two, entitled "An act to consolidate into one act and to declare the special and local laws affecting public interests in the city of New York," in so far as the same relates to the fire and building departments of said city, and by adding a new section thereto, creating a bureau to be known as "the bureau of fire alarm, telegraph and electrical appliances."

Approved by the Governor April 9, 1892. Passed, three-fifths being present.

The People of the State of New York, represented in Senate and Assembly, do enact as follows :

SECTION 1. Department of buildings—superintendent.—In addition to the departments in the city of New York provided for by section thirty-four of chapter four hundred and ten of the laws of eighteen hundred and eighty-two, together with the acts supplemental to and amendatory thereof, there is hereby created a "department of buildings," which shall have exclusive charge of all the matters and things set forth in section five hundred and four of chapter four hundred and ten of the laws of eighteen hundred and eighty-two, and of any and of all acts amendatory thereof or supplementary thereto, and of any and all other provisions of law relating to such matters which were heretofore under the jurisdiction and cognizance of the fire department of the city of New York or the bureau thereof known as the "bureau of inspection of buildings," as enumerated in section four hundred and twenty-seven of said chapter four hundred and fifty of the laws of eighteen hundred and eighty-two, and all

acts amendatory thereof or supplementary thereto. The head of the department of buildings shall be called "the superintendent of buildings." He shall be appointed by the mayor. He shall be subject to removal by the mayor after written charges have been preferred against him, and he has had a hearing thereon subject, however, to the approval of the governor, expressed in writing. He shall be paid a salary of five thousand dollars per annum, payable monthly, and shall hold his office for six years and until his successor be appointed, unless sooner removed.

§ 2. General powers and duties.—Such department of buildings shall have power and authority to do, and is hereby charged with the duty of doing the several matters and things heretofore provided to be done by the fire department of the city of New York, or the "bureau of inspection of buildings," or the "inspector of buildings," or the "superintendent of buildings," as the head of such bureau has been by such laws described, also all matters under control of the board of health in regard to light, ventilation, plumbing and drainage. The expenses of said department of buildings shall be provided for in the same manner as the expenses of other departments under chapter four hundred and ten of the laws of eighteen hundred and eighty-two, and the acts supplemental and amendatory thereof; but in no case shall the amount expended by the said department of buildings exceed the amount appropriated for said department by the board of estimate and apportionment; said department of buildings shall file with the comptroller of said city monthly a statement under the oath of its superintendent showing the number and names of all persons employed by it during the preceding month, and the amount paid to each of them and the particular kind of work in which each of them shall have been employed during such month.

§ 3. Subordinate officers and employes.—Said superintendent shall have power to engage, in behalf of such department buildings, and in his discretion to discharge, from time to time, such officers and employes thereof, subject to the provisions hereinafter stated, and to fix their compensation, as shall be necessary and proper in executing the duties hereby imposed, and may make, from time to time, rules and regulations for their government.

§ 4. Transfer of property.—Upon the organization of the department hereby created and notice thereof from said superintendent to the fire department and board of health of the said city, all books, papers, records, property, leases, moneys, accounts, claims and things of every kind and description belonging to or in the custody of said fire department and board of health, and used by those departments in connection with the bureau of the fire department known as the "bureau of inspection of buildings," as it heretofore existed; also all matters now in the board of health referring to light ventilation, plumbing and drainage, shall be transferred by the said fire department and board of health to the department of buildings hereby cre-

ated, and until such transfer takes place the said fire department and board of health shall remain charged with all the duties of said departments. At the same time that the aforementioned transfer takes place the comptroller of said city shall transfer to the credit of said department of buildings any unexpended balances heretofore appropriated for the purposes of said "bureau of inspection of buildings" that may be at that time standing to the credit of the fire department in excess of liabilities incurred by said fire department for those purposes, and shall also transfer to the credit of said department of buildings any unexpended balances heretofore appropriated for the division of plumbing and ventilation in the sanitary bureau of the board of health that may be at that time standing to the credit of the board of health in excess of the liabilities incurred by the said board of health for those purposes. The superintendent of buildings, with the approval of the commissioners of the sinking fund, shall provide such officers and business accommodation as may be requisite for the transaction of the business of the department of buildings and that of its subordinates. The department may adopt a common seal and direct its use.

§ 5. Application of certain terms.—Whenever in any act applicable to the city of New York and relating to the subject matter of this act, the words "fire department," "bureau of inspection of buildings," "superintendent of buildings," "inspector of buildings," "board of health," or "health department," shall occur, the same shall be taken to mean the department of buildings and superintendent of buildings herein authorized.

§ 6. Appropriations for 1892.—Upon requisition of the superintendent of buildings setting forth the necessity of any such appropriations, and the specific purpose to which it is to be applied, the board of estimate and apportionment may, in its discretion, at any time appropriate money for the purpose of carrying out the provisions of this act for the remainder of the year eighteen hundred and ninety-two. Any appropriation, or appropriation so made, shall be added to the amount appropriated in the final estimate for the year eighteen hundred and ninety-two, and revenue bonds shall be issued therefor in like manner as for the expenditures of the city government during said year, and the amount so appropriated shall be added to the tax levy for the year eighteen hundred and ninety-two.

§ 7. Consolidation act amended.—Section four hundred and seventy-one of chapter four hundred and ten of the laws of eighteen hundred and eighty-two, is hereby amended to read as follows :

§ 471. Construction and alteration of buildings.—No wall, structure, building, or part thereof, shall hereafter be built, constructed, altered or repaired, in the city of New York, except in conformity with the provisions of this title. No building already erected, or hereafter to be built, in said city, shall be raised, altered or built upon, in such manner, that were such building wholly built or constructed after the passage of this act, it would be in violation of any of the provisions of this title.

§ 8. Section four hundred and seventy-two of chapter four hundred and ten of the laws of eighteen hundred and eighty-two, as heretofore amended, is further amended to read as follows :

§ 472. **Materials used.**—The walls of all buildings, other than frame or wooden buildings, shall be constructed of stone, brick, iron or other hard incombustible material, and the several component parts of such buildings shall be as herein provided.

§ 9. Section four hundred and seventy-three of chapter four hundred and ten of the laws of eighteen hundred and eighty-two, as heretofore amended, is further amended to read as follows :

§ 473. **Excavations—adjoining walls.**—All excavations shall be properly guarded and protected so as to prevent the same from becoming dangerous to life or limb and shall be sheet-piled where necessary to prevent the adjoining earth from caving in, by the person or persons causing the excavations to be made. Whenever an examination of either earth or rock for building or other purposes, shall be intended to be, or shall be carried to the depth of more than ten feet below the curb, the person or persons causing such excavation to be made shall at all times, from the commencement until the completion thereof, if afforded the necessary license to enter on the adjoining land and not otherwise, at his or their own expense, preserve any adjoining or contiguous wall or walls from injury, and support the same by proper foundations, so that the said wall or walls shall be and remain practically as safe as before such excavation was commenced, whether the said adjoining or contiguous wall or walls are down more or less than ten feet below the curb. If such excavation shall not be intended to be, or shall not be, carried to a depth of more than ten feet below the curb, the owner or owners of such adjoining or contiguous wall or walls shall preserve the same from injury, and so support the same by proper foundations that it or they shall be and remain practically as safe as before such excavation was commenced, and shall be permitted to enter upon the premises where such excavation is being made for that purpose, when necessary. In case an adjoining party wall is intended to be used by the person or persons causing the excavation to be made, and such party wall is in good condition and sufficient for the uses of the adjoining building, then and in such case the person or persons causing the excavations to be made shall, at his or their own expense, preserve such party wall from injury and support the same by proper foundations, so that said party wall shall be and remain practically as safe as before the excavation was commenced. If the person or persons whose duty it shall be to preserve or protect any wall or walls from injury shall neglect or fail so to do after having had a notice of twenty-four hours from the superintendent of buildings, then the superintendent of buildings may enter upon the premises and employ such labor, and furnish such materials, and take such steps as, in his judgment, may be necessary to make the same safe and secure, or to prevent the same from becoming unsafe or dangerous, at the expense of the person or persons last herein

referred to. Any party doing the said work, or any part thereof, under and by direction of the said superintendent, may bring and maintain an action against the person or persons last herein referred to, to recover the value of the work done and materials furnished, in and about the said premises, in the same manner as if he had been employed to do the said work by the said person or persons. When an excavation is made on any lot, and it is intended to use part of such excavation, on either the side or the rear of the lot, as an area, or space for light and air, the person or persons causing such excavation to be made shall build at his or their own cost and expense, a retaining wall of sufficient strength to support the adjoining earth; and such retaining wall shall be carried to the height of the adjoining earth.

§ 10. Section four hundred and seventy-four of chapter four hundred and ten of the laws of eighteen hundred and eighty-two, as heretofore amended, is further amended to read as follows:

§ 474. Foundations.—Every building except buildings erected upon wharves or piers on the water front, shall have foundations laid not less than four feet below the surface of the earth, on the solid ground or level surface of rock, or upon piles or ranging timbers. Piles intended for a wall, pier or post to rest upon, shall not be less than five inches in diameter at the smallest end, and shall be spaced not more than thirty inches on centers, or nearer if required by the superintendent of buildings, and they shall be driven to a solid bearing. No pile shall be weighed with a load exceeding forty thousand pounds. The tops of all piles shall be cut off below the lowest water line. When required concrete shall be rammed down in the interspaces between the heads of the piles to a depth and thickness of not less than twelve inches and for one foot in width outside of the piles. Where ranging and capping timbers are laid on piles for foundations, they shall be of hard wood not less than six inches thick and properly joined together, and their tops laid below the water line. When crib footings of iron or steel are used below the water level, the same shall be entirely coated with coal tar, paraffine varnish or other suitable preparation, before being placed in position. When footings of iron or steel for columns are placed below the water level, they shall be similarly coated for preservation against rust. Foundation walls shall be construed to include all walls and piers built below the curb level or nearest tier of beams to the curb to serve as supports for walls, piers, columns, girders, posts or beams. Foundation walls shall be built of stone or brick. If built of stone, they shall be at least eight inches thicker than the wall next above them to a depth of twelve feet below the curb level; and for every additional ten feet, or part thereof deeper, they shall be increased four inches in thickness. If built of brick, they shall be at least four inches thicker than the wall next above them to a depth of twelve feet below the curb level; and for every additional ten feet, or part thereof, deeper, they shall be increased four inches in thickness. The footing or base course shall be of stone or concrete, or both, or of concrete and stepped-up brickwork, of sufficient thickness and area to safely bear the weight to be imposed thereon; if the footing or base course be of concrete,

the concrete shall not be less than twelve inches thick ; if of stone, the stones shall not be less than two by three feet, and at least eight inches in thickness for walls ; and at least twelve inches wider than the bottom width of said walls, and not less than ten inches in thickness if under piers, columns or posts, and at least twelve inches wider on all sides than the bottom width of said piers, columns or posts. All base stones shall be well bedded and laid crosswise, edge to edge. If stepped-up footings of brick are used in place of stone, above the concrete, the steps or off-sets, if laid in single courses, shall each not exceed one and one-half inches, or if laid in double courses, then each shall not exceed three inches, starting with the brickwork covering the entire width of the concrete, so as to properly distribute the load to be imposed thereon. If, in place of a continuous foundation wall, isolated piers are to be built to support the superstructure, where the nature of the ground and the character of the building make it necessary, inverted arches shall be turned between the piers, at least twelve inches thick and of the full width of the piers, and resting upon a continuous bed of concrete of sufficient area, and at least eighteen inches thick ; or two footing courses of large stone may be used, the bottom course to be laid crosswise, edge to edge, and the top course laid lengthwise, end to end ; or one course of concrete and one course of stone. The stones shall not be less than ten inches thick in each course, and the concrete shall not be less than eighteen inches thick, and the area of the lower course shall be equal to the area of the base course that would be required under a continuous wall, and the outside pier shall be secured to the second piers with suitable iron rods and plates. All stone walls twenty-four inches or less in thickness shall have at least one header extending through the wall in every three feet in height from the bottom of the wall, and in every four feet in length, and if over twenty-four inches in thickness, shall have one header for every six superficial feet on both sides of the wall, and running into the wall at least two feet. All headers shall be at least eighteen inches in width and eight inches in thickness and consist of good flat stones. No stone shall be laid in such walls in any other position than on its natural bed. Before the walls of buildings are carried up above the foundation walls the cellars shall be connected with the street sewers. Should there be no sewer in the street, or if the cellars are below tide level or below the sewer level, then provision shall be made by the owner to prevent water accumulating in the cellars.

§ 11. Section four hundred and seventy-five of chapter four hundred and ten of the laws of eighteen hundred and eighty-two, as heretofore amended, is further amended to read as follows ;

§ 475. **Vaults under sidewalk.**—In buildings where the space under the sidewalk is utilized, a sufficient stone or brick wall shall be built to retain the roadway of the street, and the side end or party walls of such building shall extend under the sidewalk of sufficient thickness to such wall. The roofs of all vaults shall be of incombustible material. Openings in the roofs of vaults for the admission of coal or light, shall be covered with lens lights in iron frame, or with iron covers having a rough surface, and rabbeted

flush with the sidewalk. When areas are covered over, iron, or iron and glass combined, stone or other incombustible materials shall be used, and sufficient strength in such covering shall be provided to insure safety to persons walking on the same, and to carry the loads which may be placed thereon. Open areas shall be properly protected with suitable railings.

§ 12. Section four hundred and seventy-six of chapter four hundred and ten of the laws of eighteen hundred and eighty-two, as heretofore amended, is further amended to read as follows :

§ 476. **Thickness of walls in dwelling-houses.**—The basement walls of dwelling-houses, not over thirty-five feet in height, and not over twenty feet in width, shall not be less than twelve inches thick, if of brick. The other walls shall not be less than eight inches thick ; but no party wall in any such building shall be less than twelve inches thick. The walls of all dwelling-houses, whether called tenement-houses, apartment-houses, flats, hotels or other buildings which are to be used for residence purposes, twenty-six feet or less in width between walls, and also the walls of school-houses, which are hereafter erected, or which may be altered to be used as herein specified, over thirty-five feet in height and not over fifty feet in height, shall not be less than twelve inches thick above the foundation wall ; but no wall shall be built having a twelve-inch thick portion measuring vertically more than fifty feet. If over fifty feet in height and not over sixty feet in height, the walls shall not be less than twelve inches thick above the basement, if a high-stoop house, and not less than sixteen inches thick in the first story, if not a high-stoop house. If over sixty feet in height, and not over seventy-five feet in height, the walls shall not be less than sixteen inches thick to the height of twenty-five feet, or to the nearest tier of beams to that height, and from thence not less than twelve inches thick to the top. If over seventy-five feet in height, and not over eighty-five feet in height, the walls shall not be less than twenty inches thick to the height of twenty feet, or to the nearest tier of beams to that height, thence not less than sixteen inches thick to the height of sixty feet, or to the nearest tier of beams to that height, and from thence not less than twelve inches thick to the top. If over eighty-five feet in height and not over one hundred feet in height, the walls shall not be less than twenty-four inches thick to the height of thirty-five feet, or to the nearest tier of beams to that height, thence not less than twenty inches thick to the height of seventy-five feet, or to the nearest tier of beams to that height, and from thence not less than sixteen inches thick to the top. If over one hundred feet and not over one hundred and fifteen feet in height, the walls shall not be less than twenty-eight inches thick to the height of twenty-five feet, or to the nearest tier of beams to that height ; thence not less than twenty-four inches thick to the height of fifty feet, or to the nearest tier of beams to that height ; thence not less than twenty inches thick to the height of ninety feet, or to the nearest tier of beams to that height, and from thence not less than sixteen inches thick to the top. If over one hundred and fifteen feet in height, each additional twenty-five feet in height or part thereof, next above the curb, shall be in-

creased four inches in thickness, the upper one hundred and fifteen feet of wall remaining the same as specified for a wall of that height. All non-bearing walls of buildings hereinbefore in this section specified may be four inches less in thickness, provided, however, that none are less than twelve inches thick, except as hereinafter specified. Eight-inch brick partition walls may be built to support the beams in such buildings in which the distance between the walls is not over thirty-three feet; provided, that no clear span is over twenty-six feet; but no such partition wall shall be built having an eight-inch thick portion measuring vertically more than fifty feet. This clause shall not be construed to prevent the use of iron girders or iron girders and columns, or piers of masonry, for the support of the walls and ceilings over any room which has a clear span of more than twenty-six feet between walls. If the clear span is to be over twenty-six feet, then the bearing walls shall be increased four inches in thickness for every twelve and one-half feet or part thereof, that said span is over twenty-six feet. Whenever two or more dwelling-houses shall be constructed not over twelve feet six inches in width, and not over fifty feet high, the alternate centre wall between any two such houses, shall be of brick not less than eight inches thick above the foundation wall; but no such wall shall have an eight-inch portion measuring vertically more than fifty feet; and the ends of the floor beams shall be so separated that four inches of brick-work will be between the beams where they rest on the said centre wall. In no case shall either end of a beam or beams rest on stud partitions.

§ 13. Section four hundred and seventy-seven of chapter four hundred and ten of the laws of eighteen hundred and eighty-two, as heretofore amended, is further amended to read as follows:

§ 477. **Walls in warehouses, stores, etc.**—The walls of all warehouses, stores, factories, and stables, twenty-five feet or less in width between walls, shall not be less than twelve inches thick to the height of forty feet. If over forty feet in height, and not over sixty feet in height, the walls shall not be less than sixteen inches thick to the height of forty feet, or to the nearest tier of beams to that height, and not less than twelve inches thick from thence to the top. If over sixty feet in height, and not over seventy-five feet in height, the walls not to be less than twenty inches thick to the height of twenty-five feet or to the nearest tier of beams to that height, and from thence not less than sixteen inches thick to the top. If over seventy-five feet in height and not over eighty-five feet in height, the walls shall not be less than twenty-four inches thick to the height of twenty feet, or to the nearest tier of beams to that height; thence not less than twenty inches thick to the height of sixty feet, or to the nearest tier of beams to that height, and thence not less than sixteen inches thick to the top. If over eighty-five feet in height and not over one hundred feet in height, the walls shall not be less than twenty-eight inches thick to the height of twenty-five feet, or to the nearest tier of beams to that height; thence not less than twenty-four inches thick to the height of fifty feet, or to the nearest tier of beams to that height; thence not less than twenty inches thick to the height

of seventy-five feet, or to the nearest tier of beams to that height, and thence not less than sixteen inches thick to the top. If over one hundred feet in height, each additional twenty-five feet in height, or part thereof, next above the curb, shall be increased four inches in thickness, the upper one hundred feet of wall remaining the same as specified for a wall of that height. If there is to be a clear span of over twenty-five feet between walls, the bearing walls shall be four inches more in thickness than is in this section specified, for every twelve and one-half feet, or fraction thereof, that said walls are more than twenty-five feet apart. All buildings, not excepting dwellings, that are over one hundred and five feet in depth, without a crosswall, or proper piers or buttresses, shall have the side or bearing walls increased in thickness four inches more than is specified in the respective sections of this title for the thickness of walls for every one hundred and five feet, or part thereof, that said buildings are over one hundred and five feet in depth. In all stores, warehouses and factories over twenty-five feet in width between walls in which there shall be brick partition walls, or girders supported on iron or wooden columns, or piers of masonry, the partition walls, or girders, shall be so placed that the space between any two partition walls, or girders, shall not exceed twenty-five feet, and the iron or wooden columns, or piers of masonry, and girders, shall be made of sufficient strength and size to bear safely the weight of any lateral strain to be imposed upon them. In case iron or wooden girders, supported by iron or wooden columns, or piers of masonry, are substituted in place of brick partition walls, the building may be seventy-five feet wide and two hundred and ten feet deep, and when the building is located on a corner, it may be one hundred feet wide and one hundred and five feet deep, but not wider nor deeper, except in case of fire-proof buildings which may be constructed as hereinafter provided for in section four hundred and eighty-four of this title. In case the walls of any building are less than twenty-five feet apart, and less than forty feet in depth, or there are crosswalls which intersect the wall, not more than forty feet distant or between the same, or piers or buttresses built into the walls, the interior walls may be reduced in thickness in just proportion to the number of crosswalls, piers or buttresses, and their nearness to each other; provided, however, that this clause shall not apply to walls below sixty feet in height, and that no such wall shall be less than twelve inches thick at the top, and gradually increased in thickness by set-offs to the bottom; and the superintendent of buildings is hereby authorized and empowered to decide (except where herein otherwise provided for) how much the walls herein mentioned may be permitted to be reduced in thickness, according to the peculiar circumstances of each case, without endangering the strength and safety of the building. The walls of churches, theaters, foundries, machine shops, car or stage-houses, armories, public markets not over two stories in height and other building of a public character, shall in no case be less than is in this title specified for warehouses; and said buildings shall have, in addition thereto, such piers or buttresses as, in the judgment of the superintendent of buildings, may be necessary to make a safe and substantial building. One-story structures not exceeding a height of fifteen feet may

be built with eight-inch walls when the bearing walls are not more than nineteen feet apart and the length of the eight-inch bearing walls does not exceed thirty-five feet. Curtain walls of brick built in between iron or steel columns, and supported wholly or in part on iron or steel girders, shall not be less than twelve inches thick for fifty feet of the uppermost height thereof, or to the nearest tier of beams to that measurement, in any building so constructed, and every lower section of fifty feet or to the nearest tier of beams to such vertical measurement, or part thereof, shall have a thickness of four inches more than is required for the section next above it, down to the tier of beams nearest to the curb level; and thence downwardly the thickness of walls shall increase in the ratio prescribed in section four hundred and seventy-four of this title for the thickness of foundation walls.

§ 11. Section four hundred and seventy-eight of chapter four hundred and ten of the laws of eighteen hundred and eighty-two, heretofore repealed is re-enacted and amended to read as follows:

§ 478. **Piers and buttresses.**—In all walls the same amount of materials may be used in piers or buttresses. Curtain walls may be made four inches less in thickness than is specified respectively for walls of dwellings, and buildings other than dwellings, but no curtain wall shall be less than twelve inches thick. If any horizontal section through any part of any bearing wall in any building shows more than twenty-five per centum area of flues and openings, the said wall shall be increased four inches in thickness for every ten per centum, or fraction thereof, of flue or opening area in excess of twenty-five per centum. Every pier built of brick, containing less than nine superficial feet at the base, supporting any beam, girder, arch or column on which a wall rests, or lintel spanning an opening over ten feet and supporting a wall, shall at intervals of not over thirty inches apart in height have built into it a bond stone not less than four inches thick, or a cast-iron plate of sufficient strength, and the full size of the piers. All piers shall be built of stone or good, hard, well burnt brick laid in cement mortar. Isolated brick piers shall not exceed twelve times their least dimensions. Stone posts for the support of posts or columns above shall not be used in the interior of any building. For piers fronting on a street the bond stones may conform with the kind of stone used for the trimmings of the front. Where walls or piers are built of coursed stones, with dressed level beds and vertical joints, the superintendent of buildings shall have the right to allow such walls or piers to be built of a less thickness than specified for brick work, but in no case shall said walls or piers be less than three-quarters of the thickness provided for brick work. In all brick walls every sixth course shall be a heading course, except where walls are faced with brick in running bond, in which latter case, every sixth course shall be bonded into the backing by cutting the course of the face brick and putting in diagonal headers behind the same, or by splitting the face brick in half and backing the same with a continuous row of headers. All stone used for the facing of any building, and known as ashlar, shall not be less than four inches thick. Stone ashlar shall be anchored to the backing and the backing shall be of

such thickness as to make the walls (independent of the ashlar) conform as to the thickness with the requirements of sections four hundred and seventy-six and four hundred and seventy-seven of this title. Iron ashlar plates used in imitation of stone ashlar on the face of a wall must be backed up with the same thickness of brick work as stone ashlar. Walls heretofore built for or used as party walls, whose thickness at the time of their erection was in accordance with the requirements of the then existing laws, but which are not in accordance with the requirements of this title, may be used if in good condition for the ordinary uses of party walls, provided the height of the same be not increased. In case it is desired to increase the height of existing party or independent walls, which walls are less in thickness than required under this title, the same shall be done by a lining of brick work to form a combined thickness with the old wall of not less than four inches more than the thickness required for a new wall corresponding with the total height of the wall when so increased in height. The said linings shall be supported on proper foundations and carried up to such height as the superintendent of buildings may require. No lining shall be less than eight inches in thickness, and all lining shall be laid up in cement mortar and thoroughly anchored to the old brick walls with suitable wrought-iron anchors, placed two feet apart and properly fastened or driven into the old walls in rows alternating vertically and horizontally with each other, the old walls being first cleaned of plaster or other coatings where any lining is to be built against the same. Any building, the erection of which was commenced in accordance with specifications and plans submitted to and approved by the superintendent of buildings prior to the passage of this act, if properly constructed, and in safe condition, may be completed or built upon in accordance with the requirements of law, as to the thickness of walls, in force at the time when such specifications and plans were approved. In no case shall any wall or walls of any buildings be carried up more than two stories in advance of any other wall, except by permission of the superintendent of buildings. The front, rear, side and party walls shall be properly bonded together, or anchored to each other every six feet in their height by wrought-iron tie anchors, not less than one and a half inches by three-eighths of an inch in size. The side anchors shall be built into the side or party walls not less than sixteen inches, and into the front and rear walls, so as to secure the front and rear walls to the side, or party walls, when not built and bonded together. The walls of every building, during the erection or alteration, thereof, shall be strongly braced from the beams of each story, and when required, shall also be braced from the outside, until the building is inclosed. The roof tier of wooden beams shall be safely anchored, with plank or joist, to the beams of the story below until the building is inclosed.

§ 15. Section four hundred and seventy-nine of chapter four hundred and en of the laws of eighteen hundred and eighty-two, as heretofore amended, is further amended to read as follows :

§ 179. Mortar—hollow walls—exterior and division walls.—The walls of all buildings below the curb level, or the first tier of floor beams nearest

thereto, shall be laid in cement mortar, and the backing up of all stone ashlar shall also be laid up with cement mortar, or cement and lime mortar mixed; all other walls built of brick or stone shall be laid in lime or cement mortar, or in lime and cement mortar mixed. In all walls that are built hollow the same quantity of stone or brick shall be used in their construction as if they were built solid, as in this title provided, and no hollow wall shall be built unless the parts of same are connected by proper ties, either of brick, stone or iron, placed not over twenty-four inches apart. The inside four inches of all walls may be built of hard-burnt hollow clay or porous terra cotta blocks, properly tied and bonded into the walls, and of the dimension of ordinary bricks. All exterior and division or party walls over fifteen feet high, excepting where such walls are to be finished with cornices, gutters or crown moldings, shall have parapet walls carried two feet above the roof, and shall be coped with stone, well-burnt terra cotta or cast iron. Recesses for stairways or elevators may be left in the foundation or cellar walls of all buildings, but in no case shall the walls be of less thickness than the walls of the third story, unless reinforced by additional piers with iron girders, or iron columns and girders, securely anchored to walls on each side. No recess for water or other pipes shall be made in any wall more than one-third of its thickness, and the recesses around said pipe or pipes shall be filled up with solid masonry for the space of one foot at the top and bottom of each story. Recesses for alcoves and similar purposes shall not be deeper than eight inches, and in no case shall there be less than eight inches of brickwork at the back of such recesses, and provided that such recesses shall not be more than eight feet in width, and shall be arched over and not carried up higher than eighteen inches below the bottom of the beams of the floor next above. The aggregate area of recesses in any wall shall not exceed one-fourth of the whole area of the face of the wall on any story, nor shall any recess be made within a distance of six feet from any other one in the same wall. In all furred walls the course of brick above the under side and below the top of each tier of floor beams shall project the thickness of the furring, to more effectually prevent the spread of fire. The walls and piers of all buildings shall be properly bonded and solidly put together with close joints filled with mortar. They shall be built to a line and be carried up plumb and straight. The walls of each story shall be built up the full thickness to the top of the beams above. All brick laid in non-freezing weather shall be well wet immediately before being laid. Walls or piers, or parts of walls and piers, shall not be built in freezing weather, and if frozen, shall not be built upon. The brick used in all buildings shall be good, hard, well burnt brick. The sand used for mortar in all buildings shall be clean, sharp sand, and shall not be finer than the standard samples kept in the office of the superintendent of buildings. Cement mortar shall be made of sand and cement in the proportion of not more than three parts of sand to one part of cement, and shall be used immediately after being mixed. Lime mortar shall be made of not more than four parts of sand to one part of lime, and shall not be used before being thoroughly slaked. Cement and lime mortar shall be made of

one part of lime, one part of cement and three parts of sand to each. Concrete for foundations shall be made of one part of cement, two parts of sand and five parts of small, clean broken stone, all carefully mixed.

§ 16. Section four hundred and eighty of chapter four hundred and ten of the laws of eighteen hundred and eighty-two, as heretofore amended, is further amended to read as follows :

§ 480. **Fire-proof structures.** Every building hereafter altered to be occupied as a hotel, and every building hereafter erected or altered to be occupied as a lodging-house, and every tenement-house, apartment-house, and dwelling-house five stories in height, or having a basement and four stories in height above a cellar, hereafter erected or altered to be occupied by one or more families on any floor above the first, shall have the first floor above the cellar or lowest story constructed fire proof with iron or steel beams and brick arches. The stairs from the cellar or lowest story to the fire-proof floor next above, when placed within any such building, shall be located to the rear of the staircase leading from the first story to the upper stories and be inclosed with brick walls. The opening through the brick wall of such inclosure into the lowest story shall have an iron door, or a tin covered wooden door constructed as hereinafter described in section four hundred and ninety-one of this title, and shall be self-closing. When the stairs from the first story to the cellar or lowest story are located in an open side court the door opening leading thereto from the first story, may be placed underneath the staircase in the first story, and the strings and railings of such outside stairs shall be of iron, and if the stairs be inclosed from the weather incombustible material only shall be used for that purpose. No closet shall be constructed underneath the first story staircase, but the space thereunder shall be left entirely open and kept free from incumbrance. Every such building exceeding five stories in height, or having a basement and five stories in height above a cellar, shall be constructed as in this section before described, and shall also have the halls and stairs inclosed with twelve-inch brick walls. Eight-inch brick walls not exceeding fifty feet in their vertical measurement, may inclose said halls and stairs, and be used as bearing walls where the distance between the outside bearing walls does not exceed thirty-three feet, and the area between the said brick inclosure walls does not exceed one hundred and eighty superficial feet. The floors, stairs and ceilings in said halls and stairways shall be made of iron, brick, stone or other hard incombustible materials, excepting that the flooring and sleepers underneath the same may be of wood and the treads and handrails of the stairs may be of hard wood, provided that where wooden treads are used the underside of the stairs shall be entirely lathed with iron or wire lath and plastered thereon, or covered with metal. At least one flight of such stairs in each of said buildings shall extend to the roof, and be inclosed in a bulkhead built of fire-proof materials. When the said halls and stairways are placed centrally in, or back from the front line of the building, a connecting fire-proof hallway inclosed

with brick walls shall be provided on the first story and extend to the street. In every building thereafter erected, all the walls or partitions forming interior light or vent shafts shall be built of brick, or such other fire-proof materials as may be approved by the superintendent of buildings. The walls of all light or vent shafts, whether exterior or interior, hereafter erected, shall be carried up not less than three and one-half feet above the level of the roof. Eight-inch brick and six-inch and four-inch hollow tile partition walls, of hard burnt clay, or porous terra-cotta, may be built, not exceeding in their vertical portions a measurement of fifty, thirty-six and twenty-four feet respectively, and in their horizontal measurement a length not exceeding seventy-five feet, unless strengthened by proper cross-walls, piers or buttresses. All such walls are to be carried on proper foundations, or on iron girders, or on iron girders and columns or piers of masonry. One line of fore and aft partitions in the cellar or lowest story, supporting stud partitions above, in all buildings over eighteen feet between bearing walls in the cellar or lowest story, hereafter erected, shall be constructed of brick, not less than eight inches thick, or piers of brick with openings arched over below the underside of the first tier of beams, and the stairs shall be inclosed by a suitable brick wall carried up to the top of the tier of beams nearest the curb line. Fore and aft stud partitions and such other main stud partitions as may be required by the superintendent of buildings, which may be placed in the cellar or lowest story of any building, shall have good solid stone or brick foundation walls under the same, which shall be built up to the top of the floor beams or sleepers, and the sills of said partitions shall be of locust, or other suitable hard wood; but if the walls are built five inches higher of brick than the top of the floor beams or sleepers, any wooden sill may be used on which the studs shall be set. Fore and aft stud partitions that rest directly over each other, shall run through the wooden floor beams and rest on the plate of the partition below, and shall have the studding filled in solid between the uprights to the depth of the floor beams with suitable incombustible materials. All girders supporting the first tier of wooden beams in buildings shall be supported by brick piers, or iron, locust or other suitable hard wood, posts of sufficient strength, on proper foundations. The floor of the cellar or lowest story in every dwelling-house, tenement-house, apartment-house, lodging-house and hotel hereafter erected, shall be concreted with suitable materials not less than three inches thick. The ceiling over every cellar or lowest floor in dwelling houses, when the beams are of wood shall be lathed with iron or wire lath and plastered thereon with two coats of brown mortar of good materials. When wood wainscoting is used, in any building hereafter erected, the surface of the wall or partition behind such wainscoting shall be plastered down to the floor line, and any intervening space between the said plastering and wainscot shall be filled in with solid incombustible material.

§ 17. Section four hundred and eighty-one of chapter four hundred and ten of the laws of eighteen hundred and eighty-two, as heretofore amended, is further amended to read as follows :

§ 481. Arches and lintels.—Openings for doors and windows in all buildings, except as otherwise provided, shall have good and sufficient arches of stone, brick or terra-cotta, well built and keyed with good and sufficient abutments, or lintels of stone as follows:—For an opening not more than four feet in width, the lintels shall not be less than eight inches in height ; and for an opening not more than six feet in width, the lintel shall not be less than twelve inches in height ; and for an opening exceeding six feet in width, and not more than eight feet in width, the lintel shall be the full thickness of the wall to be supported, and not less than twelve inches in height. Every stone lintel over such opening six feet or less in width, in all walls, shall not be less than four inches thick, and shall have a bearing at each end of not less than five inches on the wall. On the inside of all openings in which the stone lintel shall be less than the thickness of the wall to be supported, there shall be a good timber lintel on the inside of the stone lintel, which shall rest at each end not more than three inches on any wall, and shall be chamfered at each end, and shall have a double row-lock or bonded arch turned over the timber lintel. Or the inside lintel may be of cast iron, and in such case stone blocks or cast iron plates shall not be required at the ends where the lintel rests on the walls, provided the opening is not more than six feet in width.

§ 18. Section four hundred and eighty-two of chapter four hundred and ten of the laws of eighteen hundred and eighty-two, as heretofore amended, is further amended to read as follows :

§ 482. Measurements, how made.—The height of all walls shall be measured from the curb level at the centre of the building to the top of the highest point of the roof beams in the case of flat roofs, and for high-pitched roofs the average of the height of the gable shall be taken as the highest point of the wall. In case the wall is carried on iron girders or iron girders and columns, or piers of masonry, the measurements, as to height, may be taken from the top of such girder. When the walls of a structure do not adjoin the street, then the average level for the ground adjoining the walls may be taken instead of the curb level for the height of such structure. the width of buildings, for the purposes of this title, shall be determined by the way the beams are placed. The lengthwise of the beams shall be considered and taken to be the widthwise of the building, and the bearing walls are those walls on which the beams or trusses rest.

§ 19. Section four hundred and eighty-three of chapter four hundred and ten of the laws of eighteen hundred and eighty-two, as heretofore amended, is further amended to read as follows :

§ 483. **Strength of floors, roofs and supports, how computed.**—In every building used as a dwelling-house, tenement-house, apartment-house or hotel, each floor shall be of sufficient strength in all its parts to bear safely upon every superficial foot of its surface seventy pounds; and if to be used for office purposes not less than one hundred pounds upon every superficial foot; if to be used as a place of public assembly, one hundred and twenty pounds; and if to be used as a store, factory, warehouse or for any other manufacturing or commercial purpose, one hundred and fifty pounds and upwards upon every superficial foot, and every floor shall be of sufficient strength to bear safely the weight to be imposed thereon in addition to the weight of the materials of which the floor is composed. The roofs of all buildings shall be proportioned to bear safely fifty pounds upon every superficial foot of their surface, in addition to the weight of materials composing the same. Every column, post or other vertical support shall be of sufficient strength to bear safely the weight of the portion of each and every floor depending upon it for support, in addition to the weight required as before stated to be supported safely upon said portions of said floors. The dimensions of each piece or combination of materials required shall be ascertained by computation, according to the rules given in Haswell's Mechanics and Engineers Pocket-book, except as may be otherwise provided for in this title. The strength of all columns and posts shall be computed according to Gordon's formulæ, and the crushing weights in pounds, to the square inch of section, for the following named materials, shall be taken as the co-efficients in said formulæ, namely:—Cast-iron, eighty thousand; wrought or rolled iron, forty thousand; rolled steel, forty-eight thousand; white pine and spruce, three thousand five hundred; pitch or Georgia pine, five thousand; American oak, six thousand. The breaking strength of wooden beams and girders shall be computed according to the formulæ in which the constants for transverse strains for central loads, shall be as follows, namely:—Hemlock, four hundred; white pine, four hundred and fifty; spruce, four hundred and fifty; pitch or Georgia pine, five hundred and fifty; American oak, five hundred and fifty; and for wooden beams and girders carrying a uniformly distributed load the constants will be doubled. The factors of safety shall be as one to four for all beams, girders and other pieces subject to a transverse strain; and as one to four for all posts, columns and other vertical supports when of wrought iron or rolled steel, and as one to five for other materials, subject to a compressive strain; and as one to six for tie-rods, tie-beams, and other pieces subject to a tensile strain. Good solid, natural earth shall be deemed to safely sustain a load of four tons to the superficial foot, or as otherwise determined by the superintendent of buildings, and the width of footing courses shall be at least sufficient to meet this requirement. In computing the weight of walls, a cubic foot of brickwork shall be deemed to weigh one hundred and fifteen pounds. Sandstone, white marble, granite and other kinds of building stone shall be deemed to weigh one hundred and sixty pounds per cubic foot. The safe-bearing load to apply to good brickwork shall be taken at eight tons per

superficial foot when good lime mortar is used ; eleven and one-half tons per superficial foot where good lime and cement mortar mixed is used ; and fifteen tons per superficial foot when good cement mortar is used. Every temporary support placed under any structure, wall, girder or beam, during the erection, finishing, alteration, or repairing of any building or structure or any part thereof, shall be of sufficient strength to safely carry the load to be placed thereon. In all warehouses, storehouses, factories, workshops, and stores where heavy materials are kept or stored, or machinery introduced, the weight that each floor will safely sustain upon each superficial foot thereof, shall within ninety days after the passage of this act, be estimated by the owner or occupant, or by a competent person employed by the owner or occupant. Such estimate shall be reduced to writing, stating the material, size, distance apart and span of beams and girders, posts or columns to support floors, and its correctness shall be sworn to by the person making the same, and it shall thereupon be filed in the office of the bureau of inspection of buildings. But if the superintendent of buildings shall have cause to doubt the correctness of said estimate he is empowered to revise and correct the same, and for the purpose of such revision the officers and employes of said department of buildings may enter any building and remove so much of any floor or other portion thereof as may be required to make necessary measurements and examination. When the correct estimate of the weight that the floors in any such buildings will safely sustain has been ascertained, as herein provided, the superintendent of buildings shall approve the same, and thereupon the owner or occupant of said building, or of any portion thereof, shall post a copy of such approved estimate in a conspicuous place on each story of the building to which it relates. Before any building hereafter erected is occupied and used, in whole or in part, for any of the purposes aforesaid and before any building, erected prior to the passage of this act, but not at such time occupied for any of the aforesaid purposes, is occupied or used, in whole or in part, for any of said purposes, the weight that each floor will safely sustain upon each superficial foot thereof, shall be ascertained and posted as hereinbefore required. The weight placed on any of the floors of any building shall be safely distributed thereon, and the superintendent of buildings may require the owner or occupant of any building, or of any portion thereof, to redistribute the load on any floor, or to lighten such load, as he may direct, where he may deem the same to be necessary for the protection of life and property. No person shall place, or cause or permit to be placed on any floor of any building any greater load than the safe load thereof, as estimated and ascertained as herein provided. Any expense necessarily incurred in moving any floor or other portion of any building for the purpose of making any examination herein provided for shall be paid by the comptroller of the city of New York, upon the requisition of the superintendent of buildings, out of the fund paid over to him under the provisions of section five hundred and fifteen of this title. Such expenses shall be a charge against the person or persons by whom or on whose behalf said estimate

was filed in the office of the bureau of inspection of buildings, and shall be collected in an action to be brought in the name of said department against said person or persons, and the sum so collected shall be paid over to the said comptroller to be deposited in said fund in reimbursement of the amount paid as aforesaid.

§ 20. Section four hundred and eighty-four of chapter four hundred and ten of the laws of eighteen hundred and eighty-two, as heretofore amended, is further amended to read as follows :

§ 484. Fire-proof buildings—rules for construction.—Every building hereafter erected to be used as a hotel, and every building hereafter erected or altered to be used as a theater, hospital, asylum, institution for the care or treatment of persons, or in whole or in any part as a school or place of instruction, the height of which exceeds thirty-five feet, except buildings, for which specifications and plans have been heretofore submitted to and approved by the superintendent of buildings, and every other building the height of which exceeds eighty-five feet, shall be built fire-proof, that is to say, they shall be constructed with walls of brick, stone, iron or other hard, incombustible materials, in which wooden beams or lintels shall not be placed, and in which the floors and roofs shall be of materials similar to the walls. The stairs and staircase landings shall be built entirely of brick, stone, iron or other hard, incombustible materials. No woodwork or other inflammable material shall be used in any of the partitions, furrings or ceilings in any such fire-proof buildings, excepting, however, that the doors and windows and their frames, the trims, the casings, the interior finish when filled solid at the back with fire-proof material, and the floor boards and sleepers directly thereunder, may be of wood. But nothing in this section contained shall be so construed as to apply to or prevent the erection of what are known as grain elevators, as usually constructed, provided they are erected on tide water, or adjacent to the river front in said city, in isolated localities, under such conditions as the said department of buildings may prescribe, including location. In all fire-proof buildings the following rules shall be observed :

1. All cast-iron, wrought-iron or rolled-steel columns shall be made true and smooth at both ends, and shall rest on iron or steel bed plates, and have iron or steel cap plates, which shall also be made true. All iron or steel trimmer beams, headers and tail beams, shall be suitably framed and connected together, and the iron girders, columns, beams, trusses and all other iron work of all floors and roofs shall be strapped, bolted, anchored and connected together, and to the walls, in a strong and substantial manner. Where beams are framed into headers, the angle irons which are bolted to the tail beams, shall have at least two bolts for all beams over seven inches in depth, and three bolts for all beams twelve inches and over in depth, and these bolts shall not be less than three-quarters of an inch in diameter. Each one of such angles or knees, when bolted to girders, shall have the same number of bolts as stated for the other leg. The angle iron in no case shall

be less in thickness than the header or trimmer to which it is bolted ; and the width of angle in no case shall be less than one-third the depth of beam, excepting that no angle knee shall be less than two and a half inches wide, nor required to be more than six inches wide. All wrought-iron or rolled steel beams eight inches deep and under shall have bearings equal to their depth, if resting on a wall ; nine to twelve-inch beams shall have a bearing of ten inches, and all beams more than twelve inches in depth shall have bearings of not less than twelve inches if resting on a wall. Where beams rest on iron supports, and are properly tied to the same, no greater bearings shall be required than one-third of the depth of the beams. Iron or steel floor beams shall be so arranged as to spacing and length of beams that the load to be supported by them, together with the weights of the materials used in the construction of the said floors shall not cause a deflection of the said beams of more than one-thirtieth of an inch per linear foot of span ; and they shall be tied together at intervals of not more than eight times the depth of the beam.

2. Under the ends of all iron or steel beams where they rest on the walls, a stone or cast-iron template shall be built into the walls. Said template shall be eight inches wide, in twelve-inch walls, and in all walls of greater thickness said template shall be twelve inches wide, and such templates, if of stone, shall not be in any case less than two and one-half inches in thickness and no template shall be less than twelve inches long.

3. All brick or stone arches placed between iron or steel floor beams shall be at least four inches thick and have a rise of at least one and a quarter inches to each foot of span between the beams. Arches of over five feet span shall be properly increased in thickness, as required by the superintendent of buildings, or the space between the beams may be filled in with sectional hollow brick of hard-burnt clay, porous terra cotta or some equally good fire-proof material, having a depth of not less than one and one-quarter inches to each foot of span, a variable distance being allowed of not over six inches in the span between the beams. The said brick arches shall be laid to a line on the centers, with close joints, and the bricks shall be well wet, and the joints filled with cement mortar, in proportions of not more than two of sand to one of cement, by measure. The arches shall be well grouted and pinned or chinked with slate, and keyed. The bottom flanges of all wrought-iron or rolled steel floor beams, and all exposed portions of such beams below the abutments of the floor arches shall be entirely incased with hard-burnt clay or porous terra cotta ; or with wire metal lath properly secured, and plastered on the under side. The exposed sides and bottom plates or flanges of wrought-iron or rolled steel girders supporting iron, steel or wooden floor beams, or supporting floor arches or floors, shall be entirely incased in the same manner.

§ 21. Section four hundred and eighty-five of chapter four hundred and ten of the laws of eighteen hundred and eighty-two, as heretofore amended is further amended to read as follows :

§ 485. **Lintels, bearings and supports.**—All iron or steel lintels shall have bearings proportionate to the weight to be imposed thereon, but no lintel used to span any opening more than ten feet in width shall have a bearing less than twelve inches at each end, if resting on a wall, but if resting on an iron post, such lintel shall have a bearing of at least six inches at each end, by the thickness of the wall to be supported. If the posts are to be party posts in front of a party wall, and are to be used for two buildings, then the said posts shall not be less than sixteen inches on the face by the thickness of the wall above, and if the party wall be more than sixteen inches thick, then the post shall be the thickness of the wall on the face. Intermediate posts may be used, which shall be sufficiently strong, and the lintels thereon shall have sufficient bearings to carry the weight above with safety, as in this title provided. When the lintels or girders are supported at the ends by brick walls or piers they shall rest upon cut granite or blue-stone blocks at least twelve inches thick, or upon cast-iron plates of equal strength by the full size of the bearings. In case the opening is less than twelve feet, the stone blocks may be six inches in thickness, or cast-iron plates of equal strength by the full size of the bearings, may be used. This requirement shall not apply to cast-iron lintels used at the back of stone lintels over openings not exceeding six feet in width. In all cases where the girder carries a wall and rests on brick piers or walls, the bearings shall be sufficient to support the weight above with safety. No cast-iron lintel or beam shall be less than three-quarters of an inch in thickness in any of its parts. Iron beams or girders used to span openings more than sixteen feet in width, upon which walls rest or upon which floor beams are carried, shall be of wrought-iron or rolled steel and of sufficient strength; or cast-iron arch girders may be used having a rise of not less than one inch to each foot of span between the bearings, with one or more wrought-iron tie-rods of sufficient strength to resist the thrusts, well fastened at each end of the girder. All lintels or girders placed over any opening in the front, rear or side of a building, or returned over a corner opening, when supported by brick or stone piers or iron columns, shall be of iron or steel and of the full breadth of the wall supported. In all buildings hereafter erected or altered, where any iron or steel column or columns are used to support a wall or part thereof, whether the same be an exterior or an interior wall, excepting a wall fronting on a street, and columns located below the level of the sidewalk which are used to support exterior walls or arches over vaults, the said column or columns shall be either constructed double, that is, an outer and an inner column, the inner column alone to be of sufficient strength to sustain safely the weight to be imposed thereon or such other iron or steel column of sufficient strength and so constructed as to secure resistance to fire, may be used as may be approved by the superintendent of buildings. Iron posts in front of party walls shall be filled up solid with masonry and made perfectly tight between the posts and walls to prevent effectually the passage of smoke or fire. Cast-iron posts or columns which are to be used for the support of wooden or iron girders or brick walls, not cast with one open side

or back, before being set up in place, shall have a three-eighths of an inch hole drilled in the shaft of each post or column, by the manufacturer or contractor furnishing the same, to exhibit the thickness of the castings; and any other similar sized hole or holes which the superintendent of buildings, or his duly authorized representatives, may require shall be drilled in the said posts or columns by the said manufacturer or contractor at his own expense. Iron posts or columns cast with one or more open sides and backs shall have solid iron plates on top of each to prevent the passage of smoke or fire through them from one story to another, excepting where pierced for the passage of pipes. No cast-iron post or column shall be used in any building of a less average thickness of shaft than three-quarters of an inch, nor shall it have an unsupported length of more than twenty times its least lateral dimensions or diameter. No wrought-iron or rolled-steel column shall have an unsupported length of more than thirty times its least lateral dimension or diameter, nor shall its metal be less than one-fourth of an inch in thickness. All cast-iron, wrought-iron and steel columns shall have their bearings faced smooth, and at right angles to the axis of the column; and when one column rests upon another column, they shall be securely bolted together. Where columns are used to support iron or steel girders carrying curtain walls, the said columns shall be of cast-iron, wrought-iron or rolled steel, and on their exposed outer and inner surfaces be constructed to resist fire by having a casing of brickwork not less than four inches in thickness and bonded into the brickwork of the curtain walls, or the inside surfaces of the said columns may be covered with an outer shell of iron having an air space between; and the exposed sides of the iron or steel girders shall also be similarly covered in and tied and bonded. When the thickness of the curtain walls is twelve inches the girders for the support of same shall be placed at the floor line of each story, commencing at the line where the thickness of twelve inches starts from, and when the thickness of such walls is sixteen inches the girders shall be placed not farther apart than every other story, at the floor line, commencing at the line where the thickness of sixteen inches starts from, provided that at the intermediate floor line a suitable tie of iron or steel shall rigidly connect the columns together horizontally, and that the ends of the floor beams do not rest upon the said sixteen-inch walls. When the curtain walls are twenty inches or more in thickness and rest directly on the foundation walls the ends of the floor beams may be placed directly thereon, but at or near the floor line of each story ties of iron or steel incased in the brickwork shall rigidly connect the columns together horizontally. The iron arches, or the usual light castings connecting the columns of an iron front of a building, shall be filled in from the soffits to the sills on each upper story with brickwork not less than eight inches thick, or hollow burnt clay blocks not less than eight inches thick, and carried through the open back columns to the same upper level, the brickwork or blocks to rest on the plates within the columns.

§ 22. Section four hundred and eighty-six of chapter four hundred and ten of the laws of eighteen hundred and eighty-two, as heretofore amended, is further amended to read as follows :

§ 486. **Strain on girders and rivets.**—Rolled iron or steel beam girders, or riveted iron or steel plate girders used as lintels or as girders, carrying a wall or floor or both, shall be so proportioned that the loads which may come upon them shall not produce strains in tension or compression upon the flanges of more than twelve thousand pounds for iron, nor more than fifteen thousand pounds for steel per square inch of the gross section of each of such flanges, nor a shearing strain upon the web-plate of more than six thousand pounds per square inch of section of such web-plate, if of iron, nor more than seven thousand pounds if of steel ; but no web-plate shall be less than one-quarter of an inch in thickness. Rivets in plate girders shall not be less than five-eighths of an inch in diameter, and shall not be spaced more than six inches apart in any case. They shall be so spaced that their shearing strains shall not exceed nine thousand pounds per square inch of section, nor their bearing exceed fifteen thousand pounds per square inch, on their diameter, multiplied by the thickness of the plates through which they pass. The riveted plate girders shall be proportioned upon the supposition that the bending or chord strains are resisted entirely by the upper and lower flanges, and that the shearing strains are resisted entirely by the web-plate. No part of the web shall be estimated as flange area, nor more than one-half of that portion of the angle iron which lies against the web. The distance between the centers of gravity of the flange areas will be considered as the effective depth of the girder. Before any girder, as before mentioned, to be used in any building shall be so used, the architect or the manufacturer of or contractor for it shall, if required so to do by the superintendent of buildings, submit for his examination and approval a diagram showing the loads to be carried by said girder, and the strains produced by such load, and also showing the dimensions of the materials of which said girder is to be constructed to provide for the said strains ; and the manufacturer or contractor shall cause to be marked upon said girder, in a conspicuous place, the weight said girder will sustain, and no greater weight than that marked on such girder shall be placed thereon.

§ 23. Section four hundred and eighty-seven of chapter four hundred and ten of the laws of eighteen hundred and eighty-two, as heretofore amended, is further amended to read as follows :

§ 487. **Inspection of iron and steel beams, etc.**—Before any iron or steel beam, lintel or girder intended to span an opening over ten feet in length in any building, shall be used for supporting a wall, the manufacturer or founder thereof, or the owner of said building, shall have the said beam, lintel or girder inspected, and if required by the superintendent of buildings, shall have the same tested by actual weight or pressure thereon, under the direction and supervision of an inspector authorized by the superintendent

of buildings. Said manufacturer, founder or owner shall notify the superintendent of buildings, in writing of the time when, and the place where said inspection and test may be made, and said inspector shall cause the weight which each of said beams, lintels or girders will safely sustain, to be properly stamped or marked in a conspicuous place thereon, and no greater weight shall be put or placed upon any beam, lintel or girder, than that stamped or marked thereon by said inspector. The deflection of a cast-iron beam, lintel or girder under an applied test of double the weight to be carried shall not exceed one-fiftieth of an inch to the foot of span, and said beam, lintel or girder shall return to its original shape after the test. In case any iron or steel beam, girder or lintel, or any iron or steel column shall be rejected by said inspector as unfit or insufficient to be used for the purpose proposed, the same shall not be used for such purpose, in or upon, or about any building or part thereof. All iron-work and steelwork used in any building shall be of the best material and made in the best manner, and properly painted with oxide of iron and linseed oil paint before being placed in position, or coated with some other equally good preparation, or suitably treated for preservation against rust.

§ 24. Section four hundred and eighty-eight of chapter four hundred and ten of the laws of eighteen hundred and eighty-two, as heretofore amended, is further amended so as to read as follows :

§ 488. **Wooden beams, use of, regulated.**—All wooden beams and other timbers in the party wall of every building built of stone, brick or iron, shall be separated from the beam or timber entering in the opposite side of the wall by at least four inches of solid mason work. No wooden floor beams nor wooden roof beams used in any building, other than a frame building, hereafter erected, shall be of a less thickness than three inches. All wooden trimmer and header beams shall not be less than one inch thicker than the floor or roof beams on the same tier, where the header is four feet or less in length ; and where the header is more than four feet and not more than fifteen feet in length, the trimmer and header beams shall be at least double the thickness of the floor or roof beams, or shall each be made of two beams forming such thickness properly spiked or bolted together, and when the header is more than fifteen feet in length wrought-iron fitch plates of proper thickness and depth shall be placed between two wooden beams suitably bolted together to and through the iron plates in constructing the trimmer and header beams ; or wrought-iron or rolled steel beams of sufficient length may be used. Every wooden beam, except header and tail beams, shall rest at one end four inches in the wall, or upon a girder as authorized by this title. Every wooden header or trimmer more than four feet long, used in any building, shall be hung in stirrup-irons of suitable thickness for the size of the timbers. No timber shall be used in any wall of any building, where stone, brick or iron is commonly used, except lintels, as hereinbefore provided. The ends of all wooden floor and roof

beams, where they rest on brick walls, shall be cut to a bevel of three inches on their depth. All wooden beams shall be trimmed away from all flues, whether the same be a smoke, air or any other flue, the trimmer beam to be eight inches from the inside face of a flue in a straight way and four inches from the outside of a chimney breast, and the header two inches from the outside face of the flue. All fire-places shall have trimmer arches to support hearths and the said arches shall be at least sixteen inches in width, measured from the face of the chimney breast, and they shall be constructed of brick, stone or burnt clay. Each tier of beams shall be anchored to the side, front, rear or party walls at intervals of not more than six feet apart, with good, strong wrought-iron anchors of not less than one and a half inches by three-eighths of an inch in size, well fastened to the side of the beams by two or more nails made of wrought-iron at least one-fourth of an inch in diameter. Where the beams are supported by girders, the girders shall be anchored to the walls and fastened to each other by suitable iron straps. The ends of beams resting upon girders shall be butted together end to end and strapped by wrought-iron straps of the same size and distance apart, and in the same beam as the wall anchors, and shall be fastened in the same manner as said wall anchors, or they may lap each other at least twelve inches and be well spiked or bolted together where lapped. Every pier and wall, front or rear, shall be well anchored to the beams of each story, with the same size anchors as are required for side walls, which anchor shall hook over the same beam. Each tier of beams front and rear, opposite each pier, shall have hard wood or Georgia pine anchor strips dovetailed into the beams diagonally, which strips shall cover at least four beams and be one inch thick and four inches wide, but no such anchor strips shall be let in within four feet of the center line of the beams; or wooden strips shall be nailed on the top of the beams and kept in place until the floors are being laid. All timbers and wooden beams used in any building shall be of good sound material free from rot, large and loose knots, shakes or any imperfection whereby the strength may be impaired, and be of such size and dimensions as the purposes for which the building is intended require.

§ 25. Section four hundred and eighty-nine of chapter four hundred and ten of the laws of eighteen hundred and eighty-two, as heretofore amended, is further amended to read as follows :

§ 489. **Fire-places, chimneys and flues** —All fire-places and chimneys in stone or brick walls in any building hereafter erected, except as herein otherwise provided, and any chimney, or flues hereafter altered or repaired, without reference to the purpose for which they may be used, shall have the joints struck smooth on the inside. No pargeting mortar shall be used on the inside of any fire-place, chimney or flue. The fire backs of all fire-places hereafter erected shall be not less than eight inches in thickness, of solid masonry. The stone or brick-work of all smoke flues, and the chimney shafts of all furnaces, boilers, bakers' ovens, large cooking ranges and laundry

stoves, and all flues used for a similar purpose shall be at least eight inches in thickness. If there is a cast-iron or burnt clay pipe built inside of the same, with one inch air space all around it, then the stone or brick-work inclosing such pipes shall not be less than four inches in thickness. All smoke flues of smelting furnaces or of steam boilers, or other apparatus which heat the flues to a high temperature, shall be built with double walls, with an air space between them, the inside four inches to be of fire brick or fire-clay slabs, or blocks laid in fire mortar, to the height of twenty-five feet from the bottom. All smoke flues shall extend at least three feet above the roof, and shall be coped with well-burnt terra cotta, stone or cast-iron. In all buildings hereafter erected every smoke flue shall be lined on the inside with cast-iron or well burnt clay, or fire-proof terra cotta pipe, from the bottom of the flue, or from the throat of the fire-place, if the flue starts from the latter, and carried up continuously to the extreme height of the flue. The ends of all such lining pipes shall be made to fit close together, and the pipe shall be built in as the flue or flues are carried up. Each smoke pipe shall be inclosed on all sides with not less than four inches of brick work properly bonded together. All stone or brick hot-air flues and shafts shall be lined with tin, galvanized iron or burnt clay pipes. No wooden casing, furring or lath shall be placed against or cover any smoke flue or metal pipe used to convey hot air or steam. No smoke pipe shall pass through any floor or roof of any building. No stove pipe in any building with wooden or combustible floors, ceilings or partitions, shall enter any flue unless the said pipe shall be at least twelve inches from either the said floors, ceilings or partitions, unless the same is properly protected by a metal shield, in which case the distance shall not be less than six inches. In all cases where stove pipes pass through stud or wooden partitions of any kind, they shall be guarded by either a double collar of metal with at least three inches of air space and holes for ventilation, or by a soapstone or burnt clay ring not less than three inches in thickness and extending through the partition. Where laundry stoves, hot water, steam, hot air or other furnaces are used in any building, the smoke pipe leading therefrom must be kept not less than eighteen inches from the floor beams or ceiling unless the same is properly protected by a metal shield, when the distance shall not be less than nine inches. In all cases where such pipe passes through a wood or stud partition it shall be protected by a thimble with eight inches of brickwork around it or a double collar of metal with at least six inches air space, and holes for ventilation. Tin or other metal flues, or pipes used or intended to be used to convey heated air, shall be inclosed with brick or stone at least four inches in thickness, or other hard incombustible materials. Horizontal pipes, and hot air pipes in stud partitions, shall be built in the following manner: The pipes shall be double, that is, two pipes, one inside the other, at least one-half inch apart, and there shall be a space of three inches between the pipe and stud on each side; the inside faces of said stud shall be well lined with tin plate and the outside faces covered with iron lath or slate. No hot air pipe shall be allowed in any stud partition unless said partition

shall be at least eight feet distant in a horizontal direction from the furnace. Horizontal hot-air pipes shall be kept six inches below the floor beams or ceiling; if the floor beams or ceiling are plastered and protected by a metal shield, then the distance shall not be less than three inches. In cases where hot-air pipes pass through a wood or stud partition, they shall be guarded by either a double collar of metal, with two inches air space and holes for ventilation, or they shall be surrounded by brick work at least four inches in thickness. All flues in every building shall be properly cleaned and all rubbish removed, and the flues left smooth on the inside upon the completion of all buildings. No chimney shall be started or built upon any floor or beam of wood. In no case shall a chimney be corbeled out more than eight inches from the wall, and in all such cases the corbeling shall consist of at least five courses of brick. Where chimneys are supported by piers, the piers shall start from the foundation on the same line with the chimney breast, and shall not be less than twelve inches on the face, properly bonded into the walls. No chimney shall be cut off below, in whole or in part, and supported by wood, but shall be wholly supported by stone, brick or iron. All chimneys which shall be dangerous in any manner whatsoever, shall be repaired and made safe, or taken down. Iron cupola chimneys of foundries shall extend at least ten feet above the highest point of any roof within a radius of fifty feet of such cupola, and be covered on top with a heavy wire netting.

§ 26. Section four hundred and ninety of chapter four hundred and ten of the laws of eighteen hundred and eighty-two, as heretofore amended, is further amended to read as follows:

§ 490. Steam pipes—furnaces—registers—gas and water pipes—electric wires.—No steam pipe shall be placed within two inches of any timber or woodwork unless the timber or woodwork is protected by a metal shield, then the distance shall not be less than one inch. All steam pipes passing through floors and ceilings or lath and plastered partitions shall be protected by a metal tube one inch larger in diameter than the pipe, and the space shall be filled in with mineral wool, asbestos or other incombustible material. All wooden boxes or casings inclosing steam pipes and all covers to recesses shall be lined with iron or tin plate. All brick hot-air furnaces shall have two covers, with an air space of at least four inches between them; the inner cover of the hot-air chamber shall be either a brick arch or two courses of brick laid on galvanized iron or tin, supported by iron bars; the outside cover, which is the top of the furnace, shall be made of bricks or metal supported by iron bars, and so constructed as to be perfectly tight, and shall not be less than four inches below the ceiling or floor beams. The walls of the furnace shall be built hollow in the following manner: One inner and one outer wall, each four inches in thickness, properly bonded together with an air space of not less than three inches between them. Furnaces must be built at least four inches from all woodwork. All cold air boxes shall be made of metal, brick or other incombustible material. All portable

hot-air furnaces shall be kept at least two feet from any wooden or combustible partition or ceiling unless the partitions and ceilings are properly protected by a metal shield when the distance shall not be less than one foot. Wooden floors under any portable furnace shall be protected by a suitable stone, or a course of bricks well laid in mortar. Said stone or bricks shall extend at least two feet beyond the furnace in front of the ash-pan. Registers located over a brick furnace shall be supported by a brick shaft built up from the cover of the hot-air chamber; said shaft shall have a metal pipe inside of it. All registers for hot-air furnaces placed in any woodwork or combustible floors shall have stone borders firmly set in plaster of paris or gauged mortar. All such register boxes shall be made of tin plate with a flange on the top to fit the groove in the stone, the register to rest upon the same; there shall be an open space of two inches on all sides of the register box, extending from the under side of the stone border to and through the ceiling below the said opening shall be fitted with a tight tin casing, the upper end of which shall be turned under the stone. When a register box is placed in the floor over a portable furnace, the open space on all sides of the register box shall not be less than three inches. When only one register is connected with a furnace said register shall have no valve. Where a kitchen range is placed near a wooden stud partition the studs shall be cut away and framed two feet higher and one foot wider than the range, and filled in to a line with said stud partition with brick or fire-proof blocks and plastered thereon. No gas, water or other pipes which may be introduced into any building shall be let into the beams unless the same be placed within thirty-six inches of the end of the beams; and in no building shall the said pipes be let into the beams more than two inches in depth. Every building, other than a dwelling-house, hereafter erected, and all factories, hotels, churches, theaters, school-houses and other buildings of a public character now erected in which gas or steam is used for lighting or heating, shall have the supply pipes leading from the street mains provided each with a stop-cock placed in the sidewalk at or near the curb, and so arranged as to allow of shutting off at that point. Every electric wire for furnishing light, heat or power, led into any building from the outside thereof, shall be arranged with suitable appliances to cut off the current on the outside of the building. All wires placed inside of buildings, whether in connection with aerial or underground wires and carrying electrical currents, shall be properly insulated. All gas brackets shall be placed at least three feet below any ceiling or woodwork, unless the same is properly protected by a shield; in which case the distance shall not be less than eighteen inches. No swinging or folding gas bracket shall be placed against any stud partition or woodwork. Gas-lights placed near window curtains or any other combustible material shall be protected by a proper shield. In cases where hot water, steam, hot air or other heating appliances or furnaces are hereafter placed in any building, or flues or fire-places are changed or enlarged, due notice shall first be given to the superintendent of buildings by

the person or persons placing the said furnace or furnaces in said building, or by the contractor or superintendent of said work.

§ 27. Section four hundred and ninety-one of chapter four hundred and ten of the laws of eighteen hundred and eighty-two, as heretofore amended, is further amended to read as follows :

§ 491. **Doors, blinds and shutters.**—Every building which is more than two stories in height above the curb level, except dwelling-houses, hotels, school-houses and churches, shall have doors, blinds or shutters made of iron, hung to iron hanging frames or to iron eyes built into the wall, on every window and opening above the first story thereof, excepting on the front openings of buildings fronting on streets which are more than thirty feet in width. Or the said doors, blinds or shutters may be constructed of pine or other soft wood of two thicknesses of matched boards at right angles with each other, and securely covered with tin, on both sides and edges, with folded lapped joints, the nails for fastening the same being driven inside the lap ; the hinges and bolt, or latches shall be secured or fastened to the door or shutter after the same has been covered with the tin, and such doors or shutters shall be hung upon an iron frame, independent of the woodwork of the windows and doors, or two iron hinges securely fastened in the masonry ; or such frames, if of wood, shall be covered with tin in the same manner as the doors and shutters. All occupants of buildings shall close the said shutters, doors and blinds at the close of the business of each day. All shutters opening on fire-escapes, and at least one row, vertically, in every three rows on the front window openings above the first story of any building, shall be so arranged that they can be readily opened from the outside by firemen. All rolling iron or steel shutters hereafter placed in the first story of any building, shall be counter-balanced so that said rolling shutters may be readily opened by the firemen. No building hereafter erected, other than a dwelling-house or fire-proof building, shall have inside iron shutters to windows above the first story. All windows and openings above the first story of any building may be exempted from having shutters by the board of examiners. Where openings in interior brick walls are fitted with fire-proof doors or shutters to prevent the spread of fire between different buildings, or between parts of any building, the said doors or shutters shall be closed at the close of the business of each day by the occupant or occupants of the building having use or control of the same.

§ 28. Section four hundred and ninety-two of chapter four hundred and ten of the laws of eighteen hundred and eighty-two, as heretofore amended, is further amended to read as follows :

§ 492. **Elevators, hoist-ways, guards, fire-proof shafts.**—In any building in which there shall be any hoist-way or freight elevator or well-hole not inclosed in walls constructed of brick or other fire-proof material and provided with fire-proof doors, the openings thereof through and upon each

floor of said building, shall be provided with and protected by a substantial guard or gate and with such good and sufficient trap-doors with which to close the same, as may be directed and approved by the superintendent of buildings; and the said superintendent shall have exclusive power and authority within said city to require the openings of hoist-ways or hoist-way shafts, elevators and well-holes in buildings to be inclosed or secured by trap-doors, guards or gates and railings. Such guards or gates shall be kept closed at all times, except when in actual use and the trap-doors shall be closed at the close of the business of each day by the occupant or occupants of the building having the use or control of the same. In all buildings hereafter erected the roof, immediately over the hoist-way, elevator or well-hole, shall be covered with a skylight of suitable size. All elevators hereafter placed in any building, except such fire-proof buildings as have been or may be erected in accordance with section four hundred and eighty-four of this title, shall be inclosed in suitable walls of brick, or with a suitable frame-work of iron and burnt clay filling; or of such other fire-proof material and form of construction as may be approved by the superintendent of buildings. Said walls or construction shall extend through and at least three feet above the roof and all openings in the same shall be provided with fire-proof doors and made solid for three feet above the floor level, and with grill openings above. Elevators may be put in the well-hole of stairs, in buildings, without such brick or fire-proof inclosures, where the stairs are inclosed in brick or stone wall, and the stairs are constructed as specified in section four hundred and eighty of this title. Elevators may also be placed in any stair-well or open court of any building erected prior to the passage of this act, under a permit therefor from the superintendent of buildings, but the frame-work and inclosure of any such elevator shall be constructed of fire-proof materials. The foregoing requirement as to brick or fire-proof shafts shall include all dumb-waiters except such as do not extend through more than three stories in dwelling-houses. The roofs over all inclosed elevators shall be made of fire-proof materials, with a skylight at least three-fourths the area of the shaft, made of glass, set in iron frames. Immediately under the machinery at the top of every elevator shaft hereafter placed in any building in said city, there shall be provided and placed a substantial grating or screen of iron, of such construction as shall be approved by the superintendent of buildings. The superintendent of buildings shall make regulations for the inspection of passenger elevators with a view to the safety of passengers; and shall also prescribe suitable qualifications for persons who are placed in charge of running passenger elevators. The regulations so made shall require any repairs found necessary upon inspection to be made without delay, and in case defects are found to exist which would endanger life by the continued use of such elevator, then, upon notice from the superintendent of buildings, the use of such elevator shall cease, and it shall not again be used until a certificate shall be first obtained from said superintendent that such elevator has been put in safe order and is fit

for use. No person shall employ or permit any person to be in charge of running any passenger elevator who does not possess the qualifications prescribed therefor. Every freight elevator or lift shall have a notice posted conspicuously thereon as follows: Persons riding on this elevator do so at their own risk. Every elevator in any building erected to be occupied, or now occupied, as a hotel, shall, within six months after the passage of this act, be inclosed in suitable walls constructed and arranged as in this section required for elevators hereafter placed in buildings, unless under the provisions of this section, such elevator might have been placed in said building without such inclosing walls.

§ 29. Section four hundred and ninety-three of chapter four hundred and ten of the laws of eighteen hundred and eighty-two, as heretofore amended, is further amended to read as follows:

§ 493. **Roofs, cornices and bulk-heads.**—If a mansard or any other roof having a pitch of over sixty degrees be placed on any building, except a wooden building, or a dwelling house not exceeding thirty-five feet in height, it shall be constructed of iron rafters and lathed with iron on the inside and plastered, or filled in with fire-proof material not less than three inches thick, and covered with metal, slate or tile. All exterior cornices, inclusive of those on show windows, and gutters of all buildings hereafter erected shall be of some fire-proof material. All fire-proof cornices shall be well secured to the walls with iron anchors, independent of any woodwork. In all cases the walls shall be carried up to the planking of the roof, and where the cornice projects above the roof the walls shall be carried up to the top of the cornice, and the party walls shall in all cases extend up above the planking of the cornice and be coped. All exterior wooden cornices that may now be or that may hereafter become unsafe or rotten shall be taken down, and if replaced shall be constructed of some fire-proof material. All exterior cornices of wood or gutters that may hereafter be damaged by fire to the extent of one-third shall be taken down, and if replaced shall be constructed of some fire-proof material; but if not damaged to the extent of one-third, the same may be repaired with the same kind of material of which they were originally constructed. Bulkheads used as inclosures for tanks and elevators, and coverings for the machinery of elevators and all other bulkheads, including the bulkheads of all dwelling houses hereafter erected or altered, may be constructed of hollow fire-proof blocks; or of wood, covered with not less than two inches of fire-proof material, or filled in the thickness of the studding with such material, and covered on all sides with metal, including sides and edges of doors. Covers on top of water tanks placed on roofs, may be of wood covered with tin.

§ 30. Section four hundred and ninety-four of chapter four hundred and ten of the laws of eighteen hundred and eighty-two, as heretofore amended, is further amended to read as follows:

§ 494. **Roofing, scuttles and skylights.**—The planking and sheathing of the roof of every building erected or built as aforesaid shall in no case be extended across the front, rear, side, end or party wall thereof. Every such building and the tops and sides of every dormer-window thereon shall be covered and roofed with slate, tin, copper or iron, or such other quality of fire-proof roofing as the superintendent of buildings, under his certificate, may authorize, and the outside of the frames of every dormer-window hereafter placed upon any building as aforesaid shall be made of some fire-proof material. No wooden building in any part of the city, not more than two stories or above twenty feet in height above the curb level to the highest part thereof, which shall require roofing, shall be roofed with any other roofing or covered except as aforesaid. Nothing in this section shall be construed to prohibit the repairing of any shingle roof, provided the building is not altered in height. All buildings shall have scuttles or bulkheads, covered with some fire-proof materials, with ladders or stairs leading thereto. No scuttle shall be less in size than two by three feet. All skylights having a superficial area of more than nine square feet, placed in any building, shall have the sashes and frames thereof constructed of iron and glass. Every fire-proof roof hereafter placed on any building, shall have, besides the usual scuttle or bulkhead, a skylight or skylights of a superficial area equal to not less than one-fiftieth the superficial area of such fire-proof roof. All buildings shall be kept provided with proper metallic leaders for conducting water from the roofs in such manner as shall protect the walls and foundations of said buildings from injury. In no case shall the water from the said leaders be allowed to flow upon the sidewalk, but the same shall be conducted by pipe or pipes to the sewer. If there be no sewer in the street upon which such buildings front, then the water from said leader shall be conducted by proper pipe or pipes, below the surface of the sidewalk to the street gutter.

§ 31. Section four hundred and ninety-five of chapter four hundred and ten of the laws of eighteen hundred and eighty-two, as heretofore amended, is amended to read as follows:

§ 495. **Fire limits—tenement-houses—fences—signs—out-houses.**—No frame or wooden building shall hereafter be built, except as in this section authorized, in that portion of said city bounded by the North river from the Battery to a point one hundred feet north of the northerly side of One Hundred and Sixty-fifth street and running thence easterly one hundred feet north of the northerly side of One Hundred and Sixty-fifth street to Eleventh avenue, thence northerly on a line drawn one hundred feet west of and parallel to the westerly sides of Eleventh and St. Nicholas avenues to One Hundred and Eighty-first street, thence easterly on a line drawn one hundred feet north of the northerly side of One Hundred and Eighty-first street to the Harlem river; thence through the center of the Harlem river to a point which is distant one hundred feet north of the northerly line of One Hundred and Forty-ninth street and run-

ning thence easterly and always one hundred feet north of said northerly line of One Hundred and Forty-ninth street until it meets the center line of Third avenue, thence northerly along said center line of Third avenue to a point which is distant two hundred feet north of the northerly line of Westchester avenue, thence easterly and along a line always distant two hundred feet north of said northerly line of Westchester avenue to the center line of Trinity avenue, thence in a southerly direction along said center line of Trinity avenue to the East river or Bronx kills, and thence by the East river to the place of beginning. North, west, and east of the limits before described, no frame building to be occupied as a stable shall be erected upon any pier, wharf or bulkhead on the water-front nor shall any frame building, to be occupied or used as a stable, work-shop or manufactory, be built more than two stories or twenty-five feet in height, nor shall any wooden tower or spire be built or rebuilt to a greater height than sixty feet. Three-story frame dwellings with shingle roofs and twelve-inch brick foundation walls under the same may be built to a height of thirty-five feet north and east of the limits before prescribed. When two or more such houses are built continuous, the party or division walls may be of brick not less than eight inches thick above the foundation wall; and the ends of the floor beams shall be so separated that four inches of brick will be between the beams where they rest on the said walls. No frame dwelling-house, hereafter erected shall be occupied by more than one family on each floor, nor shall any frame building already erected be altered to be occupied by more than three families. Temporary one-story frame buildings may be erected for the uses of builders, within the limits of lots whereon buildings are in course of erection, or on adjoining vacant lots, upon permits issued by the superintendent of buildings. Fences of wood shall not be erected over ten feet high. Signs of wood shall not be erected over two feet high on any building. Piazzas or balconies of wood which do not exceed eight feet in width, and which do not extend more than three feet above the second-story floor beams, with piers of masonry or iron columns to support the same, may be erected upon the front or side of any detached dwelling-house occupied by not more than one family, but only upon a permit from the superintendent of buildings. In connected houses such piazzas or balconies may be built, provided the same are open on the front and have brick ends not less than eight inches thick, carried up above the roof of such piazza or balcony, and coped with stone. The roof of all piazzas shall be covered with some fire-proof material. Sheds of wood not over fifteen feet high, open on at least one side, with the sides and roof thereof covered with fire-proof material, may also be built, but no fence shall be used as the back or side of any such shed. Any bay or oriel window that does not extend more than three feet above the second-story floor of any dwelling-house may be built of wood. Exterior privies, and wood or coal-houses, not exceeding one hundred and fifty square feet in superficial area and eight feet high, may be built of wood, but the roofs thereof must be covered with metal, gravel or slate.

§ 32. Section four hundred and ninety-six of chapter four hundred and ten of the laws of eighteen hundred and eighty-two, as heretofore amended, is hereby further amended to read as follows :

§ 496. **Raising and enlarging brick and wooden buildings.**—It shall not be lawful for the owner or owners of any brick dwelling house with eight-inch walls, or of any wooden building already erected that has a peaked roof, to raise the same for the purpose of making a flat roof thereon, unless the same be raised with the same kind of material as the building, and unless such new roof be covered with some of the articles mentioned in the four hundred and ninety-fourth section of this title, and provided that such building, when so raised, shall not exceed forty feet in height to the highest part thereof. All such buildings must exceed twenty-five feet in height to the peak of the roof before the said alteration and raising. If any such building shall have been built before the street upon which it is located or graded, or if the grade is altered, such building may be raised or lowered to meet the requirements of such grade. No frame building more than two stories in height, now used as a dwelling, shall hereafter be raised or altered to be used as a factory, warehouse or stable. No brick or wooden building shall be enlarged or built upon unless the exterior walls of said addition or enlargement be constructed of fire-proof materials ; provided, however, that such brick or wooden buildings may be raised, lowered or altered under the same circumstances, and in the same manner especially provided for in this section. No wooden building shall be moved from one lot to another until a sworn petition setting forth the purposes of said removal and the uses to which said building is to be applied is filed in the office of the superintendent of buildings, and the written consent of said superintendent is first obtained therefor. No wooden building shall be moved from above to below the limits prescribed herein for the erection of wooden buildings.

§ 33. Section four hundred and ninety-seven of chapter four hundred and ten of the laws of eighteen hundred and eighty-two, as heretofore amended, is further amended to read as follows :

§ 497. **Damaged buildings, when repaired or rebuilt.**—Every wooden or frame building with a brick or other front, which may hereafter be damaged to an amount not greater than one-half of the value thereof exclusive of the valuation of the foundation thereof, at the time of such damage, may be repaired or rebuilt ; but if such damage shall amount to more than one-half of such value thereof, exclusive of the value of the foundation, then such building shall not be repaired or rebuilt, but shall be taken down. The amount and extent of such damage shall be determined upon an examination of the building by one surveyor who shall be appointed by said superintendent of buildings, and one surveyor who shall be appointed by the owner or owners of said premises. In case these two surveyors do not agree, they shall appoint a third surveyor to take part in such examination, and a decision of a majority of them reduced to writing and sworn to, shall be con-

clusive, and such building shall in no manner be repaired or rebuilt until after such decision shall have been rendered. If the damage be by fire, or lightning, or wind storm, and such damage is insured against, then the third surveyor provided for in this section shall be appointed by the New York Board of Fire Underwriters.

§ 34. Section four hundred and ninety-eight of chapter four hundred and ten of the laws of eighteen hundred and eighty-two, as heretofore amended, is further amended to read as follows :

§ 498. **Fire escape, construction of, penalty for incumbering.**—Every dwelling-house occupied by or built to be occupied by three or more families above the first story, and every building already erected, or that may hereafter be erected, more than three stories in height, occupied and used as a hotel or lodging-house, and every boarding-house, having more than fifteen sleeping-rooms above the basement story, and every factory, mill, manufactory or workshop, hospital, asylum or institution for the care or treatment of individuals, and every building in whole or in part occupied or used as a school or place of instruction or assembly, and every office building five stories or more in height, shall be provided with such good and sufficient fire-escapes, stairways, or other means of egress in case of fire as shall be directed by the superintendent of buildings, and said superintendent shall have full and exclusive power and authority within said city to direct fire-escapes and other means of egress to be provided upon and within said building or any of them. The owner or owners of any building upon which a fire-escape is erected shall keep the same in good repair and properly painted. No person shall at any time, place any incumbrance of any kind whatsoever before or upon any fire-escape. It shall be the duty of every fireman and policeman who shall discover any fire-escape, balcony or ladder of any fire-escape incumbered in any way to forthwith report the same to the commanding officer of his company or precinct, and such commanding officer shall forthwith cause the occupant of the premises or apartment to which said fire escape, balcony or ladder is attached or for whose use the same is provided, to be notified, either verbally or in writing, to remove such incumbrance and keep the same clear. If said notice shall not be complied with by the removal, forthwith, of such incumbrance, and keeping said fire-escape, balcony or ladder free from incumbrance, then it shall be the duty of said commanding officer, to apply to the nearest police magistrate for a warrant for the arrest of the occupant or occupants of said premises or apartment of which the fire-escape forms a part, and the said parties shall be brought before the said magistrate, as for a misdemeanor; and, on conviction, the occupant or occupants of said premises or apartment shall be fined not more than ten dollars for each offense, or may be imprisoned not to exceed ten days, or both, in the discretion of the court. In constructing all balcony fire-escapes, the manufacturer thereof shall securely fasten thereto, in a conspicuous place, a cast-iron plate having suitable raised letters on the same, to read as follows: Notice! Any person plac-

ing any incumbrance on this balcony is liable to a penalty of ten dollars and imprisonment for ten days. All buildings requiring fire-escapes shall have stationary iron ladders leading to the scuttle opening in the roof thereof, and all scuttles and ladders shall be kept so as to be ready for use at all times. If a bulkhead is used in place of a scuttle, it shall have stairs with sufficient guard or hand-rail leading to the roof. In case the building shall be a tenement-house, the door in the bulkhead or any scuttle, shall at no time be locked, but may be fastened on the inside by movable bolts or hooks. Every dwelling-house arranged for or occupied by two or more families above the first story, hereafter erected, shall be provided with an entrance to the basement thereof from the outside of such building.

§ 35. Section four hundred and ninety-nine of chapter four hundred and ten of the laws of eighteen hundred and eighty-two, as heretofore amended, is further amended to read as follows :

§ 499. Public buildings, egress from.—In all public buildings of a public character, such as hotels, churches, theatres, restaurants, railroad depots, public halls, and other buildings used or intended to be used for purposes of public assembly, amusement or instruction, the halls, doors, stairways, seats, passageways and aisles and all lighting and heating appliances and apparatus shall be arranged as the superintendent of buildings, shall direct to facilitate egress in cases of fire or accident, and to afford the requisite and proper accommodation for the public protection in such cases. All aisles and passageways in said buildings shall be kept free from camp-stools, chairs, sofas and other obstructions, and no person shall be allowed to stand in or occupy any of said aisles or passageways, during any performance, service, exhibition, lecture, concert, ball or any public assemblage. The superintendent of buildings, may at any time serve a written or printed notice upon the owner, lessee or manager of any of said buildings, directing any act or thing to be done or provided in or about the said buildings and the several appliances therewith connected, such as halls, doors, stairs, windows, seats, aisles, fire walls and fire-escapes, so as to afford such security to the public in the uses to which they may be severally applied, as they may deem necessary. Nothing herein contained shall be construed to authorize or require any alterations to existing theatres than are specified in this section. Upon report to the mayor of said city, by the department of buildings, that any order or requirement of this title in regard to theatres or places of public amusement has been violated or not complied with, in any such building, the said mayor may, in his discretion, revoke the license of such theatre or place of public amusement cause the same to be closed. No building to be used and occupied as a public school shall hereafter be erected within two hundred feet of a block occupied in whole or in part by a criminal court and prison, or either a criminal court or prison, nor shall it be lawful to hereafter erect a building to be used and occupied as a criminal court and prison, or either of them, within two hundred feet of a public school building.

§ 36. Section five hundred of chapter four hundred and ten of the laws of eighteen hundred and eighty-two, as heretofore amended, is further amended to read as follows :

§ 500. **Theatres, construction, exits, etc.**—Every theatre or opera-house or other building intended to be used for theatrical or operatic purposes, or for public entertainments of any kind where stage scenery and apparatus are employed, hereafter erected, shall be built to comply with the requirements of this section. No building which, at the time of the passage of this act, is not in actual use for theatrical or operatic purposes, and no building hereafter erected not in conformity with the requirements of this section, shall be used for theatrical or operatic purposes, or for public entertainments of any kind where stage scenery and apparatus are employed, until the same shall have been made to conform to the requirements of this section. And no building hereinbefore described shall be opened to the public for theatrical or operatic purposes, or for public entertainments of any kind where stage scenery or apparatus are employed, until the superintendent of buildings shall have approved the same in writing as conforming to the requirements of this section, and the mayor of the city of New York shall refuse to issue any license for any such building, and shall close the same, and prevent its opening until a certificate in writing of such approval shall have been given by the superintendent of buildings. Every such building shall have at least one front on the street, and in such front there shall be suitable means of entrance and exit for the audience. In addition to the aforesaid entrances and exits on the street, there shall be reserved for service in case of an emergency, an open court or space on the side not bordering on the street, where said building is located on a corner lot ; and on both sides of said building, where there is but one frontage on the street. The width of such open court or courts shall be not less than seven feet where the seating capacity is not over one thousand people, above one thousand and not more than eighteen hundred people, eight feet in width, and above eighteen hundred people, ten feet in width. Said open court or courts shall begin on a line with or near the proscenium wall and shall extend the length of the auditorium proper, to or near the wall separating the same from the entrance lobby or vestibule. A separate and distinct corridor shall continue to the street, from each open court, through such superstructure as may be built on the street side of the auditorium, with continuous walls of brick or fire-proof materials on each side the entire length of said corridor or corridors, and the ceiling and floors shall be fire proof. Said corridor or corridors shall not be reduced in width to more than three feet less than the width of the open court or courts, and there shall be no projection in the same ; the outer openings to be provided with doors or gates opening toward the street. During the performance the doors or gates in the corridor shall be kept open by proper fastenings ; at other times they may be closed and fastened by movable bolts or locks. The said open courts and corridors shall not be used for storage purposes, or for any pur-

pose whatsoever except for exit and entrance from and to the auditorium and stage, and must be kept free and clear during performances. The level of said corridors at the front entrance to the building shall not be greater than one step above the level of the sidewalk where they begin at the street entrance, and the entrance of the main front of the building shall not be on a higher level from the sidewalk than four steps, unless approved by the superintendent of buildings. To overcome any difference of level existing between exits from the parquet into courts and the level of the said corridors, gradients shall be employed of not over one foot in ten feet with no perpendicular rises. From the auditorium opening into the said open courts, or on the side street, there shall be not less than two exits on each side in each tier from and including the parquet and each and every gallery. Each exit shall be at least five feet in width in the clear and provided with doors of iron or wood; if of wood, the doors shall be constructed as hereinbefore in this title described. All of said doors shall open outwardly, and must be fastened with movable bolts, the bolts to be kept drawn during performances. There shall be balconies not less than four feet in width in the said open court or courts at each level or tier above the parquet, on each side of the auditorium, of sufficient length to embrace the two exits, and from said balconies there shall be staircases extending to the ground level, with a rise of not over eight and one-half inches to a step, and not less than nine inches tread exclusive of the nosing. The staircase from the upper balcony to the next below shall not be less than thirty inches in width in the clear, and from the first balcony to the ground three feet in width in the clear where the seating capacity of the auditorium is for one thousand people or less, three feet and six inches in the clear where above one thousand and not more than eighteen hundred people, and four feet in the clear where above eighteen hundred people and not more than twenty-five hundred people, and not over four feet six inches in the clear where above twenty-five hundred people. All the before mentioned balconies and staircases shall be constructed of iron throughout, including the floors, and of ample strength to sustain the load to be carried by them, and they shall be covered with a metal hood or awning, to be constructed as shall be directed by the superintendent of buildings. Where one side of the building borders on a street, there shall be balconies and staircases of like capacity and kind, as before mentioned, carried to the ground. When located on a corner lot that portion of the premises bordering on the side street and not required for the uses of the theatre may, if such portion be not more than twenty-five feet in width, be used for offices, stores or apartments, provided the walls separating this portion from the theatre proper are carried up solidly to and through the roof, and that a fire-proof exit is provided for the theatre, on each tier, equal to the combined width of exits opening on opposite sides in each tier, communicating with balconies and staircases leading to the street in manner provided elsewhere in this section; said exit passages shall be entirely cut off by brick walls from said offices, stores or apartments and the floors and ceilings in each tier shall be fire-proof. Nothing herein con-

tained shall prevent a roof, garden, art gallery, or rooms for similar purposes being placed above a theatre or public building, provided the floor of the same forming the roof over such theatre or building shall be constructed of iron or steel and fire-proof materials, and that said floor shall have no covering boards or sleepers of wood, but be of tile or cement. Every roof over said garden or rooms shall have all supports and rafters of iron or steel, and be covered with glass or fire-proof materials or both, but no such roof garden, art gallery or room for any public purpose shall be placed over or above that portion of any theatre or other building which is used as a stage. No work-shop, storage or general property room shall be allowed above the auditorium or stage, or under the same, or in any of the fly galleries. All of said rooms or shops may be located in the rear or at the side of the stage, but in such cases they shall be separated from the stage by a brick wall, and the openings leading into said portions shall have fire-proof doors on each side of the openings, hung to iron eyes built into the wall. No portion of any building hereafter erected or altered, used or intended to be used for theatrical or other purposes as in this section specified, shall be occupied or used as a hotel, boarding or lodging-house, factory, workshop or manufactory or for storage purposes, except as may be hereafter specially provided for. Said restriction relates not only to that portion of the building which contains the auditorium and the stage, but applies also to the entire structure in conjunction therewith. No store or room contained in the building, or the offices, stores or apartments adjoining, as aforesaid, shall be let or used for carrying on any business dealing in articles designated as especially hazardous in the classification of the New York Board of Fire Underwriters, or for manufacturing purposes. No lodging accommodation shall be allowed in any part of the building communicating with the auditorium. Interior walls built of fire-proof materials shall separate the auditorium from the entrance vestibule, and from any room or rooms over the same, also from any lobbies, corridors, refreshment or other rooms. All staircases for the use of the audience shall be enclosed with walls of brick, or of fire-proof materials approved by the superintendent of buildings, in the stories through which they pass, and the openings to said staircases from each tier shall be the full width of said staircase. A fire-wall, built of brick, shall separate the auditorium from the stage, and the same shall extend at least four feet above the stage roof, or the auditorium roof, if the latter be the higher, and shall be coped. Above the proscenium opening there shall be an iron girder covered with fire-proof materials to protect it from the heat. There shall also be constructed a relieving arch over the same, the intervening space being filled in with hard burnt brick of the full thickness of the proscenium wall. Should there be constructed an orchestra over the stage, above the proscenium opening, the said orchestra shall be placed on the auditorium side of the proscenium fire-wall, and shall be entered only from the auditorium side of said wall. The moulded frame around the proscenium opening shall be formed entirely of fire-proof materials; if metal be used, the metal shall be filled in solid with non-combustible material and securely anchored

to the wall with iron. The proscenium opening shall be provided with a fire-proof metal curtain, or a curtain of asbestos, or similar fire-proof material approved by the superintendent of buildings, sliding at each end within iron grooves, securely fastened to the brick wall, and extending into such grooves not less than six inches on each side. Said fire-proof curtain shall be raised at the commencement of each performance and lowered at the close of said performance, and be operated by approved machinery for that purpose. The proscenium curtains shall be placed at least three feet distance from the foot-lights at the nearest point. All doorways or openings through the proscenium wall, from the auditorium, in every tier, shall have doors of iron or wood on each face of the wall; if of wood the doors shall be constructed as hereinbefore described, and the doors hung so as to be opened from either side at all times. There shall be no openings in the proscenium fire-wall above the level of the auditorium ceiling. Direct access to these doors shall be provided on both sides, and the same shall always be kept free from any incumbrance. Iron ladders or stairs, securely fixed to the wall, on the stage side, shall be provided to overcome any difference of level existing between the floor or galleries on the stage side of the fire-wall and those on the side of the auditorium. There shall be provided over the stage, metal skylights, of an area or combined area of at least one-eighth the area of said stage fitted up with sliding sash and glazed with double-thick sheet glass, not exceeding one-eighth of an inch thick, and each pane thereof measuring not less than three hundred square inches, and the whole of which skylight shall be so constructed as to open instantly on the cutting or burning of a hempen cord, which shall be arranged to hold said skylights closed, or some other equally simple approved device for opening them may be provided. All that portion of the stage not comprised in the working of scenery, traps and other mechanical apparatus, for the presentation of a scene, usually equal to the width of the proscenium opening, shall be built of iron or steel beams filled in between with fire-proof material, and all girders for the support of said beams shall be of wrought-iron or rolled steel. The fly-galleries entire, including pin-rails, shall be constructed of iron or steel, and the floors of said galleries shall be composed of iron or steel beams, filled with fire-proof materials, and no wood boards or sleepers shall be used as covering over beams, but the said floors shall be entirely fire-proof. The rigging loft shall be fire-proof, except the floor covering the same. All stage scenery, curtains and decorations made of combustible material, and all wood work on or about the stage, shall be saturated with some non-combustible material, or otherwise rendered safe against fire, to the satisfaction of the superintendent of buildings. The roof over the auditorium and the entire main floor of the auditorium and vestibule, also the entire floor of the second story of the front superstructure over the entrance, lobby and corridors, and all galleries in the auditorium shall be constructed of iron or steel and fire-proof materials, not excluding the use of wooden floor boards and necessary sleepers to fasten the same to, but such sleepers shall not mean timbers of support. The fronts of each gallery shall be formed of fire-proof materials,

excepting the capping, which may be made of wood. The ceiling under each gallery shall be entirely formed of fire-proof materials. The ceiling of the auditorium shall be formed of fire-proof materials. All lathing, whenever used, shall be of metal. The partitions in that portion of the building which contains the auditorium, the entrance vestibule and every room and passage devoted to the use of the audience, shall be constructed of fire-proof materials, including the furring of outside or other walls. None of the walls or ceilings shall be covered with wood sheathing, canvas, or any combustible material, but this shall not exclude the use of wood wainscoting to a height not to exceed six feet, which shall be filled in solid between the wainscoting and the wall with fire-proof materials. The walls separating the actors' dressing-room from the stage, and the partitions dividing the dressing-rooms, together with the partitions of every passageway from the same to the stage, and all other partitions on or about the stage shall be constructed of fire-proof material approved by the superintendent of buildings. All doors in any of said partitions shall be of iron, or of wood constructed as hereinbefore described. All the shelving and cupboards in each and every dressing-room, property-room or other storage rooms, shall be constructed of metal, slate or some fire-proof material. Dressing-rooms may be placed in the fly-galleries, provided that proper exits are secured therefrom to the fire-escapes in the open courts, and that the partitions and other matters pertaining to dressing-rooms shall conform to the requirements herein contained, but the stairs leading to the same shall be fire-proof. All seats in the auditorium excepting those contained in boxes, shall be firmly secured to the floor, and no seat in the auditorium shall have more than six seats intervening between it and an aisle, on either side, and no stool or seat shall be placed in any aisle. All platforms in galleries formed to receive the seats shall not be more than twenty-one inches in height of riser, nor less than thirty inches in width of platform. All aisles on the respective floors in the auditorium, having seats on both sides of same, shall be not less than three feet wide where they begin, and shall be increased in width towards the exits in the ratio of one and one-half inches to five running feet. Aisles having seats on one side only, shall be not less than two feet wide at their beginning and increased in width the same as aisles having seats on both sides. The aggregate capacity of the foyers, lobbies, corridors, passages and rooms for the use of the audience, not including aisle space between seats shall, on each floor or gallery, be sufficient to contain the entire number to be accommodated on said floor or gallery, in the ratio of one hundred and fifty superficial feet of floor room for every one hundred persons. Gradients or inclined planes shall be employed instead of steps where possible, to overcome slight difference of level in or between aisles, corridors and passages. Every theatre accommodating three hundred persons shall have at least two exits; when accommodating five hundred persons, at least three exits shall be provided; these exits not referring to or including the exits to the open court at the sides of the theatre. Doorways of exit or entrance for the use of the public shall not be

less than five feet in width, and for every additional one hundred persons or portions thereof to be accommodated, in excess of five hundred, an aggregate of twenty inches additional exit width must be allowed. All doors of exit or entrance shall open outwardly and be hung to swing in such a manner as not to become an obstruction in a passage or corridor, and no such doors shall be closed and locked during any representation, or when the building is open to the public. Distinct and separate places of exit and entrance shall be provided for each gallery above the first. A common place of exit and entrance may serve for the main floor of the auditorium and the first gallery, provided its capacity be equal to the aggregate capacity of the outlets from the main floor and the said gallery. No passage leading to any stairway communicating with any entrance or exit shall be less than four feet in width in any part thereof. All stairs within the building shall be constructed of fire-proof material throughout. Stairways serving for the exit of fifty people must, if straight, be at least four feet wide, between railings, or between walls, and if curved or winding, five feet wide, and for every additional fifty people to be accommodated six inches must be added to their width. In no case shall the risers of any stairs exceed seven and a half inches in height, nor shall the treads exclusive of nosings, be less than ten and one-half inches wide in straight stairs. In circular or winding stairs the width of the tread at the narrowest end shall not be less than seven inches. Where the seating capacity is for more than one thousand people, there shall be at least two independent staircases, with direct exterior outlets, provided for each gallery in the auditorium, where there are not more than two galleries, and the same shall be located on opposite sides of said galleries. Where there are more than two galleries one or more additional staircases shall be provided, the outlets from which shall communicate directly with the principal exit or other exterior outlets. All said staircases shall be of width proportioned to the seating capacity as elsewhere herein prescribed. Where the seating capacity is for one thousand people, or less, two direct lines of staircase only shall be required, located on opposite sides of the galleries, and in both cases shall extend from the sidewalk level to the upper gallery, with outlets from each gallery to each of said staircases. At least two independent staircases, with direct exterior outlets, shall also be provided for the service of the stage and shall be located on the opposite sides of the same. All inside stairways leading to the upper galleries of the auditorium shall be inclosed on both sides with walls of fire-proof materials. Stairs leading to the first or lower gallery may be left open on one side, in which case they must be constructed as herein provided for similar stairs leading from the entrance hall to the main floor of the auditorium. But in no case shall stairs leading to any gallery be left open on both sides. When straight stairs return directly on themselves, a landing of the full width of both flights, without any steps shall be provided. Stairs turning at an angle shall have a proper landing without winders introduced at said turn. In stairs, when two side flights connected with one main flight, no winders shall be introduced, and the width of the main flight shall be at least equal to the

aggregate width of the side flights. Circular or winding stairs shall have proper landings introduced at convenient distances. All inclosed staircases shall have, on both sides, strong hand-rails, firmly secured in the wall about three inches distant therefrom and about three feet above the stairs, but said hand-rails shall not run on level platforms and landings where the same is more in length than the width of the stairs. All staircases six feet and over in width shall be provided with a center hand-rail of hardwood, or metal, not less than two inches in diameter, placed at a height of about three feet above the center of the treads, and supported on wrought iron or brass standards of sufficient strength, placed not nearer than four feet nor more than six feet apart and securely bolted to the treads or risers of stairs, or both and at the head of each flight of stairs, on each landing, the post or standard shall be at least six feet in height, to which the rail shall be secured. Every steam boiler which may be required for heating or other purposes shall be located outside of the building, and the space allotted to the same shall be inclosed by walls of masonry on all sides, and the ceiling of such space shall be constructed of fire-proof materials. All doorways in said walls shall have iron doors. No floor register for heating shall be permitted. No coil or radiator shall be placed in any aisle or passageway used as an exit; but all said coils and radiators shall be placed in recesses formed in the wall or partition to receive the same. All supply, return or exhaust pipes shall be properly incased and protected where passing through floors or near woodwork. Stand pipes of two and one-half inches diameter shall be provided, with hose attachments on every floor and gallery, as follows, namely: One on each side of the auditorium in each tier; also one on each side of the stage in each tier, and at least one in the property room and one in the carpenter's shop, if the same be contiguous to the building. All such stand pipes shall be kept clear from obstruction. Said stand pipes shall be separate and distinct, receiving their supply of water direct from the steam pumps and shall be fitted with the regulation couplings of the fire department and shall be kept constantly filled with water by means of an automatic steam pump or pumps, of sufficient capacity to supply all the lines of hose when operated simultaneously; and said pump or pumps shall be supplied from the street main and be ready for immediate use at all times during a performance in said building. A separate and distinct system of automatic sprinklers, with fusible plugs approved by the superintendent of buildings supplied with water from a tank located on the roof over the stage and not connected in any manner with the stand pipes, shall be placed up and around the proscenium opening and on the ceiling or roof over the stage at such intervals as will protect every square foot of stage surface when said sprinklers are in operation. Automatic sprinklers shall also be placed, wherever practicable, under the stage and in the carpenter-shop, paint-rooms, store-rooms, and property-rooms. A proper and sufficient quantity of two and one-half inch hose fitted with the regulation couplings of the fire department and with nozzles attached thereto, and with hose spanners at each outlet, shall always be kept attached to each hose attachment. There shall also be kept

in readiness for immediate use on the stage, at least four casks full of water, and two buckets to each cask. Said casks and buckets shall be painted red. There shall also be provided hand pumps or other portable fire extinguishing apparatus and at least four axes, and two twenty-five feet hooks, two fifteen feet hooks, and two ten feet hooks on each tier or floor of the stage. Every portion of the building devoted to the uses or accommodation of the public, also all outlets leading to the streets, and including the open courts and corridors, shall be well and properly lighted during every performance, and the same shall remain lighted until the entire audience has left the premises. At least two or more oil lamps on each side of the auditorium in each tier shall be provided on fixed brackets, not less than seven feet above the floor. Said lamps shall be filled with whale or lard oil, and shall be kept lighted during each performance, or in place of said lamps candles shall be provided. All gas or electric lights in the halls, corridors, lobby or any other part of said buildings used by the audience, except the auditorium, must be controlled by a separate shut-off, located in the lobby, and controlled only in that particular place. Gas-mains supplying the building shall have independent connections for the auditorium and the stage, and provision shall be made for shutting off the gas from the outside of the building. When interior gas-lights are not lighted by electricity, other suitable appliances, to be approved by the superintendent of buildings shall be provided. All suspended or bracket lights surrounded by glass, in the auditorium, or in any part of the building devoted to the public shall be provided with proper wire netting underneath. No gas or electric light shall be inserted in the walls, woodwork, ceilings, or in any part of the building unless protected by fire-proof materials. All lights in passages and corridors in said buildings, and wherever deemed necessary by the superintendent of buildings, shall be protected with proper wire net-work. The foot-lights in addition to the wire net-work, shall be protected by a strong wire guard, not less than two feet distant from said foot-lights, and the trough containing said foot-lights shall be formed of and surrounded by fire-proof materials. All border lights shall be constructed according to the best known methods, and subject to approval of the commissioners of the fire department, and shall be suspended for ten feet by wire rope. All ducts or shafts used for conducting heated air from the main chandelier, or from any other light or lights, shall be constructed of metal and made double, with an air space between. All stage lights shall have strong metal wire guards or screens, not less than ten inches in diameter, so constructed that any material in contact therewith shall be out of reach of the flames of said stage lights, and must be soldered to the fixture in all cases. The stand-pipes, gas-pipes, electric wires, hose, foot-lights and all apparatus for the extinguishing of fire or guarding against the same, as in this section specified shall be in charge and under control of the department of buildings, and the superintendent of said department is hereby directed to see that the arrangements in respect thereto are carried out and enforced. A diagram or plan of each tier, gallery or floor, showing distinctly the exits therefrom shall be printed

in a legible manner on the programme of the performance. Every exit shall have over the same on the inside, the word EXIT painted in legible letters not less than eight inches high.

§ 37. Section five hundred and one of chapter four hundred and ten of the laws of eighteen hundred and eighty-two, is amended to read as follows :

§ 501. **Drainage and plumbing.**—The drainage and plumbing of all buildings, both public and private hereafter erected in the city of New York, shall be executed in accordance with plans previously approved in writing by the superintendent of buildings. Suitable drawings and descriptions of the said plumbing and drainage shall in each case be submitted and placed on file in the department of buildings. The said department of buildings is authorized to receive and place on file drawings and descriptions of the plumbing and drainage of buildings erected prior to the passage of this title. Any person violating any provision of this section shall be deemed guilty of a misdemeanor.

§ 38. Section five hundred and two of chapter four hundred and ten of the laws of eighteen hundred and eighty-two, as heretofore amended, is further amended to read as follows :

§ 502. **Recovery of bodies under fallen buildings—unsafe buildings.** In case of the falling of any building or part of any building in the city of New York, where persons are known or believed to be buried under the ruins thereof, it shall be the duty of the fire department to cause an examination of the premises to be made for the recovery of the bodies of the killed and injured. Whenever in making such examination, it shall be necessary to remove from the premises any debris, it shall be the duty of the commissioners of the department of docks, of the department of parks, of the department of public works, and of the department of street cleaning, when called upon by the department of buildings to co-operate, to provide a suitable and convenient dumping place for the deposit of such debris. In case there shall be in the opinion of the superintendent of buildings, actual and immediate danger of the falling of any building or part thereof so as to endanger life or property, said superintendent shall cause the necessary work to be done to render said building or part thereof temporarily safe until the proper proceedings can be taken as in the case of an unsafe building as provided for in this title. For the aforesaid purposes the said fire department, or the superintendent of buildings, as the case may be, shall employ laborers and materials as may be necessary to perform said work as speedily as possible, and the comptroller of the city of New York is authorized and directed to provide the funds to prosecute said work until completed. For the purpose of providing the money for said work and materials, or either of them, the board of estimate and apportionment is hereby authorized to transfer to the order of the comptroller such sums as may be necessary, from any unexpended or excessive appropriation of the then current or of any

previous year, or to issue revenue bonds payable out of the taxes of the next ensuing year.

§ 39. Section five hundred and three of chapter four hundred and ten of the laws of eighteen hundred and eighty-two, as heretofore amended, is further amended to read as follows :

§ 503. **Plans of construction or alteration to be submitted to superintendent.**—Before the erection, construction or alteration of any building or part of any building or any platform, staging or flooring to be used for standing or seating purposes, in the city of New York, is commenced, the owner or his agent or architect, shall submit to the superintendent of buildings a detailed statement in writing of the specifications, and a full and complete copy of the plans of such proposed work, which shall be accompanied with a statement in writing, sworn to before a notary public or commissioner of deeds, giving the full name and residence (street and number) of the owner, or of each of the owners of said building, or proposed building, platform, staging or flooring. If such erection, construction or alteration is proposed to be made by any other person than the owner or owners of the land in fee, the person or persons intending to make such erection or alteration shall accompany said detailed statement of the specifications and copy of the plans, with a statement in writing, sworn to as aforesaid, giving the full name and residence (street and number) of the owner or owners of the land, and also of every person interested in said building or proposed building, platform, staging or flooring, either as owner, lessee, or in any representative capacity. Such statement may be made by the agent or architect of the person or persons hereinbefore required to make the same. Said sworn statement, and detailed statement, and copy of the plans shall be kept on file in the office of the superintendent of buildings, and the erection, construction or alteration of said building, platform, staging or flooring, or any part thereof, shall not be commenced or proceeded with, until said statements and plan shall have been so filed, and approved by the superintendent of buildings. But the superintendent may, in his discretion, and for reasons to be stated in writing, by the applicant, and filed with the plans and detailed statements, dispense with the making of said sworn statement in any case. Nothing in this section shall be construed to prevent the superintendent of buildings from granting his approval for the erection of any part of a building where plans and detailed statements have been presented for the same before the entire plans and detailed statements of said building have been submitted. Any false swearing in a material point in any statement submitted in pursuance of the provisions of this section shall be deemed perjury, and shall be punished as such. Ordinary repairs may be made without notice to the department of buildings but such repairs shall not be construed to include the cutting away of any stone or brick wall, or any portion thereof, the removal or cutting of any beams or supports, or the removal, change or closing of any staircase.

§ 40. Section five hundred and four of chapter four hundred and ten of the laws of eighteen hundred and eighty-two, as heretofore amended, is further amended to read as follows :

§ 504. **Superintendent, powers of—board of examiners.**—The superintendent of buildings shall have power (except as herein otherwise provided) to pass upon any question relative to the mode, manner of construction, or materials to be used, in the erection, or alteration of any building, or other structure, provided for in this title, in any part of the city of New York, to make the same conform to the true intent and meaning of the several provisions of this title. He shall also have power to vary, or modify, the provisions of this title, upon application to him therefor, in writing, by an owner of such building or structure, or his representative, where there are practical difficulties in the way of carrying out the strict letter of this law, so that the spirit of the law shall be observed, the public safety secured, and substantial justice done ; but no such deviation shall be permitted, unless a record of the same shall be kept by the said superintendent of buildings, and a certificate be first issued to the party applying for the same. Such certificate shall not be issued until a board of examiners, consisting of a member of the New York chapter of the American Institute of Architects, one member of the New York Board of Fire Underwriters, two members of the Mechanics' and Traders' Exchange of said city, one of whom shall be a master mason and one a master carpenter, one member of the Society of Architectural Iron Manufacturers of said city, one member of the Real Estate Owners' and Builders' Association of said city, who shall be an architect or builder, and one member of the New York Real Estate Exchange, Limited, who shall be an architect or builder, and the chief of said fire department, all of whom shall be appointed by their respective organizations (and so certified to annually to said superintendent of buildings), shall also approve the proposed modifications of the law. The said examiners shall each take the usual oath of office before entering upon the performance of their duties. The superintendent of buildings shall be ex-officio, a member of said board of examiners and be chairman thereof. In cases in which it is claimed by an owner, in person, or by his representative, that the provisions of this title do not directly apply, or that an equally good and more desirable form of construction can be employed in any specific case than that required by this title, then such person shall have the right to present a petition to the board of examiners, through the superintendent of buildings, and may appear before said board and be heard ; and said board shall consider such petition in its regular order of business, and, as soon as practicable, render a decision thereon. The said board of examiners are hereby authorized and empowered to grant or reject such petition, and their decision shall be final. If such decision is favorable to said petitioner, a certificate shall be issued by the superintendent of buildings in accordance therewith. At least five affirmative votes shall be necessary to the granting of any application or petition by said board. No member of said board

shall pass upon any question in which he is pecuniarily interested. The said board shall meet once in each week upon notice from the superintendent of buildings. The chief clerk in the office of the superintendent of buildings shall be the clerk of said board, and shall keep a record of its proceedings, which shall be kept in the office of the superintendent of buildings. All the members of said board of examiners, and the clerk of said board, shall be entitled to and shall receive ten dollars for each attendance at a meeting of said board, to be paid by the comptroller from the contingent fund upon the voucher of the superintendent of buildings.* for the erection of any building on a wharf, pier or bulkhead shall be granted unless the same be also approved by the said board of examiners.

§ 41. Section five hundred and five of chapter four hundred and ten of the laws of eighteen hundred and eighty-two, as heretofore amended, is further amended to read as follows :

§ 505. Penalties for violation of this title.—The owner or owners of any building, or part thereof, upon which any violation of this title may be placed, or shall exist, and any architect, builder, carpenter or mason who may be employed or assist in the commission of any such violation, and any and all persons who shall violate any of the provisions of this title or fail to comply therewith, or any requirement thereof, or who shall violate, or fail to comply with, any order or regulation made thereunder, or who shall build in violation of any detailed statement of specifications or plans, submitted and approved thereunder, or of any certificate of permit issued thereunder, shall severally, for each and every such violation, and non-compliance, respectively forfeit and pay a penalty in the sum of fifty dollars except that any such person who shall violate any of the provisions of this title as to the construction of chimneys, fire-places, flues, hot-air pipes and furnaces, or who shall violate any of the provisions of this title, with reference to the framing or trimming of timbers, girders, beams, or other woodwork in proximity to chimney flues or fire-places, shall forfeit and pay a penalty in the sum of one hundred dollars. But if any said violation shall be removed or be in process of removal within ten days after the service of a notice as hereinafter prescribed, the liability for such penalty shall cease, and said department shall discontinue any action pending to recover the same, upon such removal or the completion thereof within a reasonable time. Any and all of the aforementioned persons, who having been served with a notice as hereinafter prescribed, to remove any violation, or comply with any requirements of this title, or with any order or regulation made thereunder, shall fail to comply with said notice within ten days after such service or shall continue to violate any requirement of this title in the respect named in said notice shall pay a penalty of two hundred and fifty dollars. For the recovery of any said penalty or penalties an action may be brought in any district court, or court of record, in said city in the name of the department

* So in the original.

of buildings, and whenever any judgment shall be rendered therefor, the same shall be collected and enforced, as prescribed and directed by the Code of Civil Procedure of the State of New York. The department of buildings is hereby authorized, in its discretion, good and sufficient cause being shown therefor, to remit any fine or fines, penalty or penalties, which any person or persons may have incurred, or may hereafter incur, under any of the provisions of this title; but no fine or penalty shall be remitted for any such violation until the violation shall have been removed.

§ 42. Section five hundred and six of chapter four hundred and ten of the laws of eighteen hundred and eighty-two, as heretofore amended, is further amended to read as follows :

§ 506. **Jurisdiction of courts—actions—lien of judgments.**—All courts of civil jurisdiction in the city of New York shall have cognizance of and jurisdiction over any and all suits and proceedings by this title authorized to be brought for the recovery of any penalty and the enforcement of any of the several provisions of this title, and shall give preference to such suits and proceedings over all others, and no court shall lose jurisdiction of any action by reason of a plea that title to real estate is involved, provided the object of the action is to recover a penalty for the violation of any of the provisions of this title. The department of buildings is authorized to institute any and all actions and proceedings, either legal or equitable that may be appropriate or necessary for the enforcement of the provisions of this title, except those arising under section five hundred and one, and all civil courts in said city are hereby invested with full legal and equitable jurisdiction to hear, try and determine all such actions and proceedings, and to make appropriate orders and render judgment therein according to law, so as to give force and effect to the provisions of this title. Whenever the superintendent of buildings is satisfied that any building or structure, or any portion thereof, the erection, construction or alteration of which is regulated, permitted or forbidden by this title, is being erected, constructed or altered, or has been erected, constructed or altered in violation of, or not in compliance with, any of the provisions or requirements of this title, or in violation of any detailed statement of specifications or plans submitted and approved thereunder, or of any certificate of permit issued thereunder, or that any provisions or requirements of this title, or any order or direction made thereunder has not been complied with, said department, may in its discretion, institute any appropriate action or proceeding, at law or in equity, to restrain, correct or remove such violation, or to restrain or correct the erection or alteration of, or to require the removal of, or to prevent the occupation or use of, the building or structure erected, constructed or altered, in violation of, or not in compliance with any of the provisions of this title, or with respect to which the requirements of this title, or of any order or direction made pursuant to any provisions contained in this title, shall not have been complied with. In any such action or proceeding said department

may, in its discretion, and on the affidavit of the superintendent of buildings setting forth the facts, apply to any court of record in said city, or to a judge or justice thereof, for an order enjoining and restraining all persons from doing, or causing or permitting to be done, any work in or upon such building or structure, or in or upon such part thereof as may be designated in said affidavit, or from occupying or using said building or structure, or such portion thereof as may be designated in said affidavit for any purpose whatever, until the hearing and determination of said action and the entry of final judgment therein. The court, or judge or justice thereof, to whom such application is made, is hereby authorized forthwith to make any or all of the orders above specified, as may be required in such application, with or without notice, and to make such other or further orders or directions as may be necessary to render the same effectual. No officer of said department, acting in good faith and without malice shall be liable for damages by reason of anything done in any such action or proceeding. No undertaking shall be required as a condition to the granting or issuing of such injunction order, or by reason thereof. All courts in which any suit or proceeding is instituted under this title, shall upon the rendition of a verdict, report of a referee, or decision of a judge or justice, render judgment in accordance therewith; and the said judgment so rendered, shall be and become a lien upon the premises named in the complaint in any such action, to date from the time of filing in the county clerk's office in the city of New York, of a notice of *lis pendens* therein; which lien may be enforced against said property, in every respect, notwithstanding the same may be transferred subsequent to the filing of the said notice. Said notice of *lis pendens* shall consist of a copy of the notice issued by the superintendent of buildings, requiring the removal of the violation and a notice of the suit of proceedings instituted, or to be instituted thereon, and said notice of *lis pendens* may be filed at any time after the service of the notice issued by the superintendent of buildings as aforesaid, provided he may deem the same to be necessary. Any notice of *lis pendens* filed pursuant to the provisions of this title, may be vacated and canceled of record, upon an order of a judge or justice of the court in which such suit or proceeding was instituted or is pending, or upon the consent in writing of the attorney to said department, and the clerk of the city and county of New York is hereby directed and required to mark any such notice of *lis pendens* and any record or docket thereof as vacated and canceled of record, upon the presentation and filing of a certified copy of an order as aforesaid, or of the consent, in writing, of said attorney. In no case shall the said department of buildings or any officer thereof, or the corporation of the city of New York, or any defendant, be liable for costs in any action, suit or proceeding that may have been, or may hereafter be, instituted or commenced by said department of buildings, in pursuance of this title, unless especially ordered and allowed against any defendant or defendants, by a court or justice, in the course of such action, suit or proceeding.

§ 43. Section five hundred and fourteen of chapter four hundred and ten of the laws of eighteen hundred and eighty-two, as heretofore amended, is further amended to read as follows :

§ 514. **Officers, appointment of, duties.**—The said department of buildings shall be and is hereby charged with the enforcement of the provisions of this title, through the superintendent of buildings, and he shall appoint all the officers thereof, namely : An attorney at law, two deputies to be designated respectively the first and second deputy superintendents of buildings, inspectors of buildings, clerks, messengers and assistants. The chief officer of said department of buildings shall be the superintendent of buildings, and he and the deputy superintendents of buildings shall each be a competent architect or builder of at least ten years' practice. The inspectors shall be competent men, either architects, civil engineers, masons, carpenters or iron-workers, who shall have served at least ten years as such. They shall be men of good character, capable of writing a fair hand, and be able to make out with clearness their reports, and no person shall serve as or be appointed to office as an inspector of buildings in said bureau who is deficient in these qualifications, and before their appointment to office they shall pass an examination before the board of examiners named in this title, a majority of whom shall sign a certificate as to their competency to perform all the duties of said office. It shall not be lawful for any officer or employe in said bureau to be engaged in conducting or carrying on business as an architect, civil engineer, carpenter, iron-worker, mason or builder in the city of New York while holding office in said bureau. The superintendent of buildings shall be authorized to designate in writing one of the deputy superintendents of buildings, or any of the inspectors, to act on any survey authorized by this title, or perform such other duties as the said superintendent may direct. The deputy superintendent of buildings to be designated by the superintendent, shall act as superintendent of buildings in case of absence of the superintendent from his office and shall, while so acting, possess all the powers in this title vested in or imposed upon the superintendent of buildings. Any inspector of buildings for any neglect of duty, or omission to properly perform his duty, or violation of rules, or neglect or disobedience of orders, or incapacity, or absence without leave, may be punished by the superintendent of buildings by forfeiting and withholding pay for a specified time, or by suspension from duty with or without pay ; but this provision shall not be deemed to abridge the right of said superintendent to remove or dismiss any inspector of buildings from the service of said department at any time in his discretion.

§ 44. There is hereby enacted a new section of chapter four hundred and ten of the laws of eighteen hundred and eighty-two, which shall be numbered section five hundred and seventeen and one-half, which shall read as follows :

§ 517½. **Bureau of fire alarm telegraph and electrical appliances.**—There shall be in the fire department of the city of New York a bureau called the

bureau of fire alarm telegraph and electrical appliances. The chief of said bureau shall be called the superintendent of fire alarm telegraph and electrical appliances, and there shall be one or more subordinate officers who shall be called inspectors of electric appliances. Said inspectors shall have a technical and practical knowledge of the construction and operation of such electrical lines and appliances. All the officers and employes of said bureau shall be appointed and removed in the manner now provided by law for the appointment and removal of officers and employes of said department. Said bureau shall have charge of the construction, care and management of the fire alarm telegraph system of said department. Said bureau is also charged with the duty of enforcing all the provisions of this title, and all rules, regulations, orders and requirements made thereunder, in regard to electrical wires or currents for furnishing light, heat or power for any building in said city, and in regard to the arrangement and use of such light, heat or power. The board of fire commissioners is hereby authorized and required to make rules and regulations in regard to electric wires, appliances and currents for furnishing light, heat or power which may be introduced into or placed in any building in said city. Such regulations shall prescribe the method of construction, operation, location, arrangement, insulation and use of such wires, appliances and currents, and all other matters in relation thereto, as said board shall, from time to time deem necessary for the protection of life and property. Said rules and regulations, and any amendments and additions thereto, shall be published in the City Record, and no such wires, currents or appliances shall thereafter be introduced into or placed in any building in said city, unless the same be done in compliance with the requirements of said rules and regulations. All notices of the violation of any of the provisions of this title, or of any rules, regulations, orders or requirements made thereunder, relating to electrical wires, currents or appliances, or to such light, heat or power, shall be issued in such manner as the fire commissioners may direct, and such notices shall be served in the manner in this title provided for the service of notices. The violation of any of the provisions of this section, or of any rule or regulation made thereunder, shall be deemed to be a violation of the provisions of this title, and shall subject the person or persons committing the same to the penalties prescribed by section five hundred and five of this title. The board of apportionment is hereby required to provide the funds necessary to carry out the requirements of this section for the balance of the current year, either by the transfer from unexpended or excessive appropriations, or by the issue of bonds to be paid out of the taxes of the next year. Thereafter the expenses herein imposed shall be provided for in the annual appropriations for said department.

§ 45. Act declared a remedial statute.—This act is hereby declared to be a remedial statute, and is to be construed liberally, to secure the beneficial interests and purposes thereof. Nothing herein contained shall be construed to affect any suit or proceeding now pending in any court, or any

rights acquired, or liability incurred, nor any cause or causes of action accrued or existing, under any act repealed hereby; nor to repeal, limit or modify the powers and duties of the health department of the city of New York except in respect to plumbing, drainage, light and ventilation of buildings in said city. Nothing in this title contained shall be construed to repeal chapter four hundred and fifty-four of the laws of eighteen hundred and eighty-five, entitled "An act to regulate the height of dwelling-houses in the city of New York," nor as authorizing the erection of any dwelling-house, or of any house used or intended to be used as a dwelling for more than one family, to a height greater than is authorized by said last-mentioned act, so long as said act shall remain in full force and effect.

§ 46. This act shall take effect immediately.

HEALTH DEPARTMENT,

CITY OF NEW YORK.

THE REGISTRATION OF PLUMBERS,

AND THE LAW AND REGULATIONS GOVERNING THE PLUMBING
AND DRAINAGE OF ALL BUILDINGS HEREAFTER ERECTED.

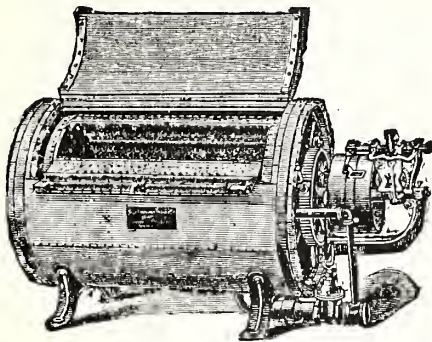
CHAPTER 275.

AN ACT to create a department of buildings in the city of New York and to amend chapter four hundred and ten of the laws of eighteen hundred and eighty-two, entitled "An act to consolidate into one act and to declare the special and local laws affecting public interests in the city of New York," in so far as the same relates to the fire and building departments of said city, and by adding a new section thereto, creating a bureau to be known as "the bureau of fire alarm, telegraph and electrical appliances."

Approved by the Governor April 9, 1892. Passed, three-fifths being present.

SECTION 5. Application of certain terms.—Whenever in any act applicable to the city of New York and relating to the subject matter of this act, the words "fire department," "bureau of inspection of buildings," "superintendent of buildings," "inspector of buildings," "board of health," or "health department," shall occur, the same shall be taken to mean the department of buildings and superintendent of buildings herein authorized.

Troy Laundry Machinery Co., (LIMITED).



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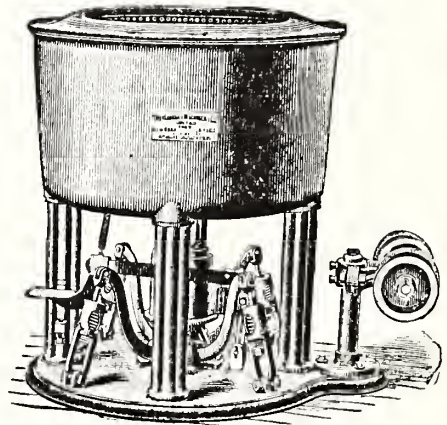
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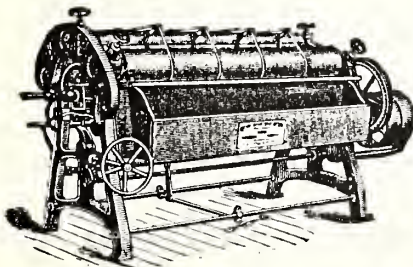
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SEND FOR CATALOGUE "A."

CHAPTER 450, LAWS OF 1881.

AN ACT to secure the registration of plumbers and the supervision of plumbing and drainage, in the cities of New York and Brooklyn.

Passed June 4, 1881.

The people of the State of New York, represented in Senate and Assembly, do enact as follows :

SECTION 1. On or before the first day of March, eighteen hundred and eighty-two, every master or journeyman plumber carrying on his trade in the cities of New York and Brooklyn, shall, under such rules and regulations as the respective Boards of Health of the Health Departments of said cities shall respectively prescribe, register his name and address at the Health Department of the said city ; and after the said date it shall not be lawful for any person to carry on the trade of plumbing in the said cities unless his name and address be registered as above provided.

SEC. 2. A list of the registered plumbers of the City of New York shall be published in the City Record at least once in each year.

SEC. 3. The drainage and plumbing of all buildings, both public and private, hereafter erected in the city of New York, or in the City of Brooklyn, shall be executed in accordance with plans previously approved in writing by the Board of Health of the said Health Departments of said cities respectively. Suitable drawings and descriptions of the said plumbing and drainage shall in each case be submitted and placed on file in the Health Department. The said Boards of Health are also authorized to receive and place on file drawings and descriptions of the plumbing and drainage of buildings erected prior to the passage of this act in their respective cities.

SEC. 4. The Board of Estimate and Apportionment of the City of New York shall add six thousand dollars to the apportionment of the Health Department for the year eighteen hundred and eighty-one, and shall insert the same in the tax levy, to provide for carrying out the provisions of this act, so far as it relates to the City of New York.

SEC. 5. Any court of record in said cities respectively, or any judge or justice thereof, shall have power at any time after the service of notice of the violation of any of the provisions of this act, and upon the affidavit of one of the Commissioners of Health of the said cities, to restrain by injunction order the further progress of any violation named in this act, or of any work upon or about the building or premises upon which the said violation exists ; and no undertaking shall be required as a condition to the granting or issuing of such injunction, or by reason thereof.

SEC. 6. Any person violating any of the provisions of this act shall be deemed guilty of a misdemeanor.

SEC. 7. This act shall take effect immediately.

RULES AND REGULATIONS

FOR THE REGISTRATION OF PLUMBERS, AND RELATING TO PLANS AND SPECIFICATIONS FOR PLUMBING AND DRAINAGE, ADOPTED BY THE BOARD OF HEALTH OF THE CITY OF NEW YORK, IN ACCORDANCE WITH CHAPTER 450, LAWS OF 1881.

Adopted April 3, 1883; Amended October 27, 1885; Amended August 18, 1887; Amended November 6, 1890.

I.—The Registration of Plumbers.

RULE 1.—Every plumber engaged in business in the City of New York shall appear in person at the Health Department, No. 301 Mott street, and register his name and address, pursuant to the provisions of Chapter 450, Laws of 1881, upon the forms prescribed by the Health Department.

RULE 2.—It shall be the duty of every plumber to give immediate notice of any change in residence or place of business, for the correction of the Register.

RULE 3. The list of registered plumbers shall be published in January of each year.

II.—Of Plumbing.

The law requires that the plumbing and drainage of all buildings, public and private, shall be executed in accordance with plans and specifications previously approved in writing by the Board of Health; and that suitable drawings and descriptions of the said plumbing and drainage shall, in each case, be submitted and placed on file in the Health Department.

No modification of approved plans, or of the work described therein, will be permitted unless the same has been previously allowed by the Board of Health on the written application of owner or architect.

Plans are approved upon the condition that such approval expires by its own limitation six months from date of permit unless work under it is then in progress. If it is not begun under approved plans within that time, such plans must again be presented to the Board for reconsideration.

Drawings and descriptions of the plumbing and drainage of buildings, erected prior to the passage of the Act of 1881, may be placed on file in the Health Department.

Blank specifications for plumbing and drainage will be furnished to architects and others, on application at this office.

As the law requires that the plumbing and drainage be executed according to a plan approved by the Board of Health, no part of the work shall be covered or concealed in any way until after it has been examined by an Inspector of the Board of Health; and notice must be sent to the Board when the work is sufficiently advanced for such inspection.

III.—General Plan of Drainage and Plumbing approved by the Board of Health.

The following plan of construction has been approved by the Board of Health. When the work is completed, and before it is covered from view, the Board must be notified, that it may send an Inspector.

1. In no case will the general water-closet accommodation of a tenement or lodging house be allowed in the cellar or basement.

2. All interior water-closet compartments in tenement-houses shall be ventilated into air shafts of not less than three square feet in area. In other buildings, water-closets should not be placed in an unventilated compartment. In each case water-closet compartments should open to the outer air, or be ventilated by means of a shaft or air duct.

3. All materials must be of good quality and free from defects; the work must be executed in a thorough and workmanlike manner.

4. Subsoil drains must be provided when necessary. When used they must be effectively trapped and means provided to maintain a seal.

5. All iron pipes must be sound, free from holes or cracks, and of the grade known in commerce as extra heavy. The following weights per lineal foot will be accepted as standards:

2	inches,	5½	pounds	per	lineal	foot.
3	"	9½	"	"	"	"
4	"	13	"	"	"	"
5	"	17	"	"	"	"
6	"	20	"	"	"	"
7	"	27	"	"	"	"
8	"	33½	"	"	"	"
10	"	45	"	"	"	"
12	"	54	"	"	"	"

6. All fittings used in connection with iron pipe shall correspond with it in weight and quality. No tar-coated cast-iron pipe shall be used.

7. The arrangement of all drainage and vent-pipe must be as direct as possible.

8. Where there is a sewer in the street, every house or building must be separately and independently connected with it. When possible such connection must be made directly in front of the house.

9. Where the ground is made or filled in, the house sewer, by which is meant the portion of the drain extending from the public sewer to the front wall, must be of extra heavy iron pipe of such diameter as the Board of Health may approve. Such pipes must be laid with the joints properly caulked with lead.

10. Where the soil consists of a natural bed of loam, sand or rock, the house sewer may be of hard, salt-glazed and cylindrical earthenware pipe, laid on a smooth bottom, free from all projections of rock and with the soil well rammed to prevent any settling of the pipe. Each section must be wetted before applying the cement, and the space between each hub and the small end of the next section must be completely and uniformly filled with the best hydraulic cement. Care must be taken to prevent any cement being forced into the drain to become an obstruction. No tempered-up cement shall be used. A straight edge must be used, and the different sections must be laid in perfect line on the bottom and sides.

11. The house-sewer must, where possible, be given an even descent to the street sewer, of not less than one-quarter of an inch to the foot.

12. Where there is no sewer in the street, and it is necessary to construct a private sewer to connect with a sewer in an adjacent street or avenue, it must be laid outside of the curb, under the roadway of the street on which the houses front, and not through the yards or under the houses.

13. The house-drain must be of extra heavy iron pipe, with a fall of at least one-quarter inch to the foot.

14. Where water-closets discharge into it, the house drain must be at least four inches in diameter.

15. It must be securely held in place against the cellar wall or properly suspended from the cellar ceiling. It can be laid under the cellar floor only when a permit from the Board of Health has been obtained.

16. It must be laid in a straight line, if possible. All changes in direction must be made with curved pipes, and all connections with Y-branch pipes, and one-sixteenth or one-eighth bends.

17. Any house drain or house sewer put in and covered without due notice to the Health Department must be uncovered for inspection at the direction of the Inspector. Old sewers or house drains can be used for new houses only when found by an Inspector of this Department to conform in all respects to the regulations governing new sewers and drains.

18. A running or half-S trap must be placed on the house drain at an accessible point near the front of the house. This trap must be furnished with a hand-hole for convenience in cleaning.

19. Hand-holes for cleaning on the house drain or its branches, or their traps or on the house-drain trap, must be provided with proper ferrules with screw covers made gas tight.

20. There must be an inlet pipe for fresh air to enter the drain just inside the trap, of at least four inches in diameter (or of the same diameter as the house drain if that is less than four inches) leading to the outer air and opening at some place and in the manner shown on the approved plans, not less than fifteen feet from the nearest window. No cold air box for a furnace shall be so placed that it can possibly draw air from this inlet pipe.

21. No brick, sheet-metal, earthenware, or chimney flue shall be used as a sewer ventilator, nor to ventilate any trap, drain, soil or waste pipe.

22. Every vertical soil, waste and vent pipe must be of extra heavy iron pipe. Where soil or waste pipes receive the discharge of fixtures on two or more floors, they must extend at least two feet above the highest part of the roof coping or light shaft louvres. All soil, waste and vent pipes extended above the roof, must be of full calibre unless the diameter is less than four inches, in which case they must be enlarged to four inches, from a point just below the roof.

No caps or cowls shall be affixed to the top of such pipes, but in tenement houses a strong wire basket shall be provided and securely fastened thereto in every case to cover them.

23. Soil, waste and vent pipes in an extension must be extended above the roof of the main building, when otherwise they would open within thirty feet of the windows of the main house or the adjoining house.

24. Branch soil and waste pipes must have a fall of not less than one-quarter of an inch per foot to the pipes into which they discharge.

Horizontal soil and waste pipes are prohibited.

25. Offsets in soil, waste or vent pipes, will not be permitted where they can be avoided, nor in any case unless suitable provision is made to prevent accumulation therein of rust or other obstructions.

26. The least diameter of soil pipe permitted is four inches. A vertical waste pipe into which a line of kitchen sinks discharges must be at least three inches in diameter if receiving the waste of sinks on five or more floors. All branch waste pipes from sinks shall be at least two inches in diameter.

27. There shall be no traps on main vertical soil or waste pipes.

28. The drain, soil, waste and vent pipes, and the traps must, if practicable, be exposed to view for ready inspection at all times, and for convenience in repairing. When necessarily placed within partitions or in recesses of walls, soil, waste and vent pipes should, if practicable, be covered with woodwork so fastened with screws as to be readily removed.

29. All joints in cast iron drain pipes, soil, waste and vent pipes must be filled with oakum and lead and so caulked as to make them gas tight. The amount of lead used to a caulked joint shall not be less than twelve ounces to each inch diameter of the pipe so connected.

30. The plumber will test all soil, waste, drain and vent pipes, in the presence of a plumbing Inspector, and after due notice to the Board of Health, by a pressure test; the pressure to be applied as directed by the Inspector, and after all openings in the pipes have been securely closed by the master plumber or other person in charge of the work. None of said pipes shall be covered until after they have stood the test to the satisfaction of the Inspector.

31. All branch lead soil, waste and vent pipes, including bends, must be of the best quality and of not less than the following weights per lineal foot :

Diameter :	Weight per foot :
1½ inches.	3 pounds 8 ounces.
2 " "	4 pounds.
3 " "	6 " "
4 " "	8 " "

32. Where lead pipe is used to connect fixtures with soil or waste pipes, or to connect traps with vent pipes, such branches must be as short as possible.

33. All connections of lead with iron pipes must be made with a brass sleeve or ferrule of the same size as the lead pipe, put in the hub of the branch of the iron pipe and caulked with lead. The lead pipe must be attached to the ferrule by a wiped or overcast joint.

34. All connections of lead waste and vent pipes shall be made by means of wiped joints.

35. Every water-closet, urinal, sink, basin, wash tray, bath, and every tub or set of tubs and hydrant waste pipe, or other fixture, must be separately and effectively trapped ; except where a sink and wash tubs immediately adjoin each other, in which case the waste pipe from the tubs may be connected with the inlet side of the sink trap. In such a case the tub waste pipe is not required to be separately trapped. Urinal platforms, if connected to drain pipes, must also be properly trapped.

36. Special precaution must be taken to secure perfect joints between water-closet traps placed above the floor and the branch soil and vent pipes for same. Cast iron traps must have lead caulked joints.

Proper floor plates must be used with earthenware water-closet traps and the joints made permanently secure and gas tight.

37. Traps must be placed as near the fixtures as practicable, and in no case shall a trap be more than two feet from the fixture, unless permitted on the approved plan.

38. All waste pipes from fixtures other than water-closets must be provided at the outlet of such fixtures with strong metallic strainers to exclude from such waste pipes all substances likely to obstruct them.

39. In no case shall the waste from a bath tub or other fixture be connected with a water-closet trap.

40. Traps must be protected from siphonage, and the waste pipe leading from them ventilated by a special air-pipe, in no case less than two inches in diameter. Except in private dwellings, the vertical vent pipes for traps of water-closets in buildings more than four stories in height must be at least three inches in diameter. All branch vent pipes for water-closet traps must be not less than two inches in diameter, and for traps of other fixtures not less than one and one-half inches in diameter.

41. Vent pipes, unless permitted by the approved plans to be tapped into an adjacent soil or waste pipe above the highest fixture, must extend two feet above the highest part of the roof or coping, or light shaft louvres. They may be combined by branching together those which serve several traps. These vent pipes must always have a continuous slope, and be connected at the bottom with the nearest drain pipe, to avoid obstruction from rust or water.

42. No trap vent pipe shall be used as a waste or soil pipe.

43. Overflow pipes from fixtures must, in each case, be connected on the inlet side of the trap.

44. Every safe under a wash basin, bath, urinal, water-closet or other fixture must be properly graded to, and drained by, a special pipe not directly connected with any soil pipe, waste pipe, drain or sewer, but discharging into an open sink, upon the cellar floor or outside the house. The outlets of such pipes should be covered by flap valves.

45. Water closets inclosed by woodwork must be provided with proper drip trays or safes.

46. The drain pipe from refrigerators shall not be directly connected with the soil or waste pipe, or with the drain or sewer, or discharge upon the ground; it should discharge into an open and water supply sink. These waste pipes and their branches should be so arranged as to admit of frequent flushing, and should be as short as possible, and disconnected from the refrigerator. In tenement houses it must be extended above the roof. Covering the discharge outlet by means of a flap valve is recommended.

47. The sediment pipe from kitchen boilers must not be connected on the outlet side of the sink trap.

48. The valves of cisterns must be so fitted and adjusted as to prevent wasting of water, especially where cisterns are supplied from a tank on the roof.

49. All water closets within the house must be supplied with water from special tanks or cisterns, the water of which is not used for any other purpose. Interior water closets must never be supplied directly from the Croton supply pipes. Except in tenement houses, a group of closets may be supplied from one tank, but water closets on different floors are not permitted to be flushed from one tank. In tenement houses there must be a separate cistern for each water-closet. In no case shall there be less than one water-closet for every fifteen occupants of a building and not less than one for every floor or story.

50. The overflow pipes from water-closet cisterns may discharge into the water-closet bowl, an open sink, or where its discharge will attract attention and indicate that waste of water is occurring, but not into the soil or waste pipe, nor into the drain or sewer.

51. Where the pressure of Croton water is insufficient to supply water-closets or other fixtures in tenement and lodging houses, factories or workshops, water must be supplied for such fixtures from a house tank of such size as to afford an adequate supply at all times. In all other cases where tanks are not used, and the supply of water from the Croton pressure is insufficient to properly supply water for all fixtures, adequate pumps must be provided for that purpose.

52. Tanks for drinking water are objectionable, but if indispensable, they must never be lined with lead, galvanized iron or zinc. They should be constructed of iron, or of wood lined with tin and planished copper, or of wood alone. Overflow pipes from house tanks should discharge upon the roof, or be trapped and discharged into an open sink, but never into any soil or waste pipe or water-closet trap, nor into the drain or sewer. Discharge pipes from such tanks must not deliver into any sewer connected soil or waste pipe.

53. When within the house the leader must be of cast iron, with leaded joints, or of copper with soldered joints. When outside of the house and connected with the house drain it must, if of sheet metal with slip joints, be trapped beneath the ground or just inside of the wall, the trap being arranged so as to prevent freezing. In every case where a leader opens near a window or a light shaft, it must be properly trapped at its base. The joint between a cast-iron leader and the roof must be made gas and water-tight by means of a brass ferrule and lead or copper pipe, properly connected.

54. Rain-water leaders must never be used as soil, waste or vent pipes; nor shall any soil, waste or vent pipe be used as a leader.

55. No steam exhaust, blow-off or drip pipe shall connect with a sewer or with any house drain, leader, soil pipe, waste or vent pipe. Such pipes must discharge into a tank or condenser, from which a suitable outlet to the house sewer may be provided.

56. Cellars should not be connected to the house drain unless necessary. Dry cesspools should be used where practicable. Mason's traps for yard, cellar and area drains are prohibited.

57. Yards and areas, and open light courts must always be properly graded, cemented, flagged or well paved and properly drained; when the drain is connected with the house drain it must be effectively trapped. Front area drains must, where practicable, be connected with the house drain inside of the running trap.

58. Cellar and foundation walls must, where necessary, be rendered impervious to dampness, and the use of asphaltum or coal-tar pitch, in addition to hydraulic cement, is recommended for that purpose.

59. No privy-vault or cesspool for sewage will be permitted in any part of the city where water closets can be connected with a public sewer in the street.

60. When there is no sewer in the street, and no way of reaching a sewer in an adjacent street or avenue, by any means provided for in these regulations, privy-vaults and cesspools will be permitted; but only after it has been shown to the satisfaction of the Board of Health that there is no danger of contamination of the water supply from any well in the vicinity. When so permitted, they shall be built and maintained absolutely water-tight. They shall be placed, as far as practicable, from any house, and so ventilated that no nuisance shall result therefrom.

61. Before turning on the water supply, after the completed work executed under improved plans therefor has been accepted by the Board of Health, a certificate must be obtained from the Board of Health that there is no violation of law unremoved on record against the work. A water permit from the Department of Public Works must also be obtained.

By order of the Board.

CHARLES G. WILSON,
President.

EMMONS CLARK,
Secretary.

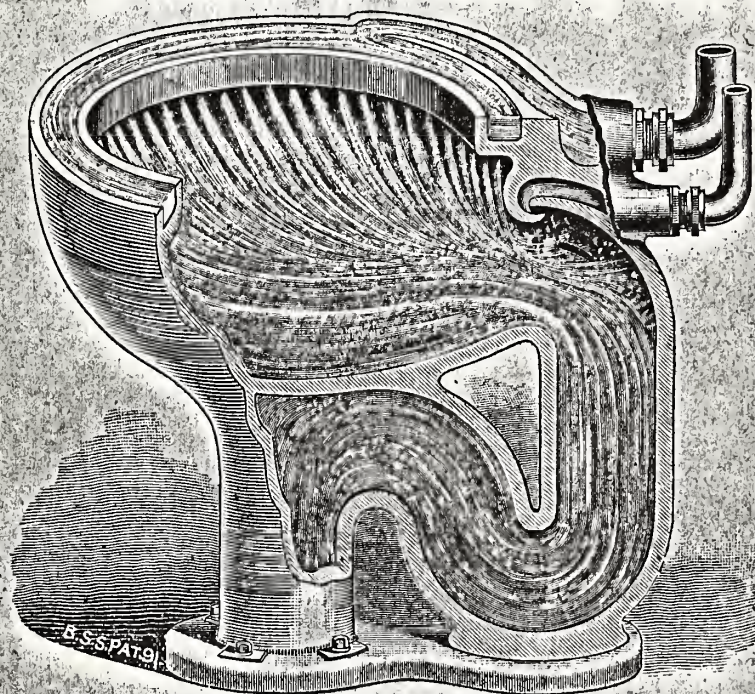
[LAWS OF 1887, CHAP. 84, SEC. 6, AMENDING SEC. 653, N. Y. CONSOLIDATION ACT, AS AMENDED BY LAWS OF 1888, CHAP. 422.]

SECTION 653. Every tenement and lodging house or building shall be provided with as many good and sufficient water closets, improved privy sinks, or other similar receptacles as the Board of Health shall require, but in no case shall there be less than one for every fifteen occupants, and not less than one for every floor or story of such tenement or lodging house. The water-closets, sinks and receptacles shall have proper doors, soil pipes and traps, all of which shall be properly ventilated to prevent the escape of deleterious gas and odors, soil-pans, cisterns, pumps and other suitable works and fixtures, necessary to insure the efficient operation, cleansing and flushing thereof. Every tenement and lodging house situated upon a lot on a street or avenue in which there is a sewer, shall have a separate and proper connection with the sewer; and the water-closets, sink and other receptacles, shall be properly connected with the sewer by proper pipes made thoroughly air-tight. Such sewer connections and all the drainage and plumbing work, water-closets, sinks and other receptacles, in and for every tenement and lodging house, shall be of the form, construction, arrangement, location, materials, workmanship and description to be approved, or such as may be required by the Board of Health of the Health Department of the City of New York. Every owner, lessee and occupant shall take adequate measures to prevent improper substances from entering such water-closets, or sinks or their connections, and to secure the prompt removal of any improper substances that may enter them, so that no accumulation shall take place, and so as to prevent any exhalations therefrom,

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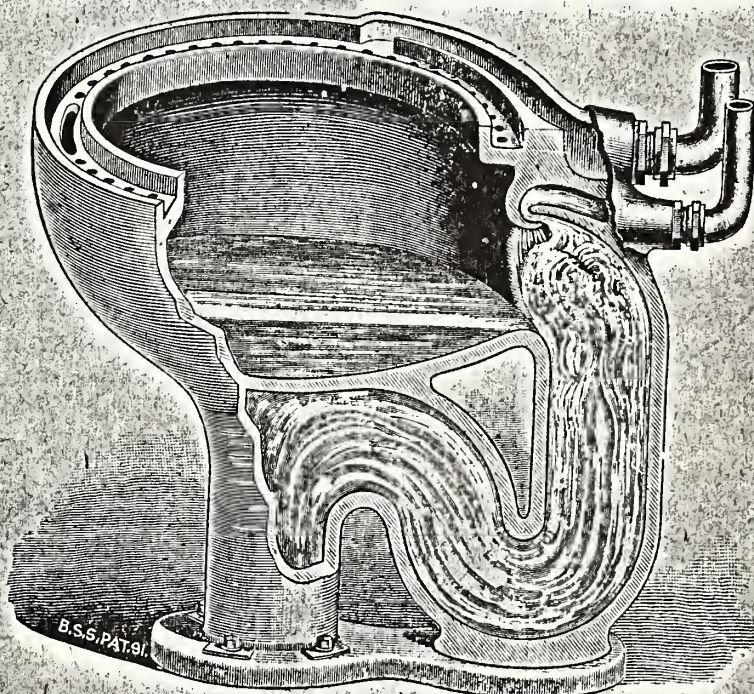
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offensive, dangerous and prejudicial to life or health, and so as to prevent the same from being or becoming obstructed. Every person who shall place filth, urine or fecal matter in any place in a tenement-house other than that provided for the same, and every person who shall keep filth, urine or fecal matter in his apartment, or upon his premises, such length of time as to create a nuisance, shall be guilty of a misdemeanor. No privy-vault or cesspool shall be allowed in or under or connected with any such house except when it is unavoidable, and a permit therefor shall have been granted by the Board of Health, and in such case it shall be constructed in such situation and in such manner as the Board of Health may direct. It shall in all cases be water-tight and arched or securely covered over, and no offensive smell or gases shall be allowed to escape therefrom, or from any closet, sink or privy. In all cases where a sewer exists in the street or avenue upon which the house or building stands, the yard or area shall be connected with the sewer, that all water from the roof or otherwise, and all liquid filth shall pass freely into the sewer. Where there is no sewer in the street or avenue, or adjacent thereto, to which connection can be made, the yard and area shall be so graded that all water from the roof or otherwise, and all filth shall flow freely therefrom into the street gutter by a passage beneath the sidewalk, which passage shall be covered by a permanent cover, but so arranged as to permit access to remove obstructions or impurities. It shall be the duty of the Board of Health to enforce the provisions of this section in regard to privy-vaults as soon as practicable, but said Board shall permit no privy-vault to remain connected with a tenement-house later than January 1, 1887,* except in the cases especially named in this section.

SPECIFICATIONS FOR THE PLUMBING AND DRAINAGE OF THE BUILDINGS HEREIN DESCRIBED.

Location.....	Number of Buildings.....	Description of Buildings.....
Buildings.....	Dimensions of each Building.....	Dimensions of lots.....
Owner.....	Address.....	Architect.....
Address.....	Plumber.....	Address.....
How many Buildings will the new ones replace?.....		
What kind of Buildings were they?.....		
How many Families did each of the old Buildings accommodate.....		
Were Buildings on front or rear of lot?.....		

Pursuant to the requirements of law, the accompanying plan for the plumbing and drainage of each of the above-mentioned buildings, and the

* So in the original.

following description thereof, is hereby submitted for the approval of the Board of Health, the undersigned hereby agreeing to cause the work to be done and the material to be furnished in accordance therewith, with such modifications as may be required by the Board of Health. No modification of the plans, or of the work described herein, will be made, unless the same is previously allowed by said Board, on the written application of owner or architect; and all work pertaining to the proper plumbing and drainage of the buildings and premises which is not covered by the plans, but is found necessary during the progress of the work in order to carry into effect the true intent thereof, will be executed in accordance with the directions of the said Board of Health.

GENERAL DIRECTIONS.

It is expressly understood that these specifications and the drawings submitted herewith to the Board of Health for approval constitute together, as approved by said Board, the plans for the plumbing and drainage of the buildings herein described; and in respect to all work not covered thereby, the plumber is to be governed by the Rules and Regulations as to plumbing and drainage established by the Board of Health.

The plumber will furnish all materials and perform all labor requisite and necessary for putting up and completing all the plumbing work in a good and thoroughly workmanlike manner, according to the plans therefor as approved by the Board of Health.

All materials will be of good quality and free from defects.

The diameters of pipes herein specified are inside diameters.

The will properly close all openings in floors and ceilings about lines of drain and vent pipe, so as to prevent the passage of foul odors from one floor to another along said lines of pipe.

The plumber will send notice to the Board of Health when the work will begin, and also at various times during the progress of said work before any part of it is permanently covered.

The plumber will properly protect all pipes and fixtures as soon as set and close all pipe openings so as to prevent obstruction and damage.

The will do all the excavating and refilling required for the proper carrying out of these specifications, except as such work is herein otherwise specifically provided for.

The plumber will obtain and pay for all necessary permits, and comply with all corporation laws relating to the subject matter of these specifications.

After the completion of the work under these plans and specifications, and before its final acceptance, the plumber must obtain the certificate of

the Board of Health that there is no violation of law on record against said work, and also a water permit from the Department of Public Works. He will then turn on the water and leave everything in perfect working order.

1.—MATERIALS, ETC.

Earthenware Pipe.

All earthenware pipe, herein specified, must be hard, smooth, salt glazed and cylindrical, and not less than $\frac{3}{4}$ of an inch in thickness. Each length will be perfectly straight and free from any fire cracks, flaws, blisters or other defects.

All special fittings to be of the same quality as the pipe.

Cast-iron Pipe.

All cast-iron pipe and fittings must be sound, cylindrical and smooth, free from cracks, sand holes and other defects, of a uniform thickness, and of the grade known in commerce as extra heavy. All iron pipe will be firmly secured in position by proper pipe supports placed not more than five feet apart. No tar-coated pipe will be used, but after the pipes have been tested and accepted by the Inspector they will be coated with

The following average weights per lineal foot will be accepted :

2 inches..	5 $\frac{1}{2}$	pounds	per	lineal	foot.	7 inches..	27	pounds	per	lineal	foot.
3 " ..	9 $\frac{1}{2}$	"	"	"	"	8 " ..	33 $\frac{1}{2}$	"	"	"	"
4 " ..	13	"	"	"	"	10 " ..	45	"	"	"	"
5 " ..	17	"	"	"	"	12 " ..	54	"	"	"	"
6 " ..	20	"	"	"	"						

All joints in cast-iron pipe will be made with picked oakum and molten lead, and the plumber will make the joints impermeable to gases, by bedding the lead with hammer and calking-iron. For each joint in cast-iron pipe twelve ounces of lead must be used to each inch of diameter of the pipe in which the joint is made. No putty or cement joints will be permitted. The lead used for calking will be pure, soft pig lead ; no old joints or other defective material will be used.

Wrought Iron Pipe.

Lead Pipe.

All branch lead soil, waste and vent pipes, including bends, must be of the best quality and of not less than the following weights per lineal foot :

Diameters :	Weight per foot .
1 $\frac{1}{2}$ inches	3 lbs. 8 ozs.
2 "	4 "
3 "	6 "
4 "	8 "

All connections of lead with iron pipes will be made by heavy brass ferrules of the same size as the lead pipe, set in the hub of the branch of the iron pipe and calked in with lead; the lead pipe to be attached to the ferrule by a proper solder wiped joint when practicable. No putty or cement joints will be permitted.

All connections of branch lead soil, waste and vent pipes will be made by wiped joints.

All lead pipes will be firmly secured in place with hard metal tacks and screws, placed not more than three feet apart; and all horizontal lead pipes will be well supported for their whole length by shelves or carrying strips, to be provided and put up by

II.—TESTS.

The plumber will test all of the soil, waste, drain and vent pipes herein described, including branches, in the presence of a plumbing Inspector, and after due notice to the Board of Health, by a pressure test; the pressure to be applied as directed by the Inspector, and after all openings in the pipes have been securely closed by the master plumber or other person in charge of the work. None of said pipes shall be covered until after they have stood the test to the satisfaction of the Inspector.

III.—CESSPOOLS AND SEWERS.

No cesspools will be allowed where there is a well on the same or adjacent premises, without a special permit from the Board of Health.

The _____ will construct in _____ at _____ feet from the building, a cesspool x _____ and _____ deep, with _____ inch walls, and bottom made absolutely water-tight by means of _____
The cesspool will be covered with _____ and ventilated by _____

As soon as it is possible to connect above-mentioned house with a public sewer, the owner will have the cesspool emptied, cleaned, disinfected and filled with fresh earth, and have such connection made in the manner prescribed by the regulations of the Board of Health.

Private Sewers.

Where there is no public sewer in the street, and it is necessary to construct a private sewer to connect with a public sewer in an adjacent street or avenue, it must be laid outside the curb under the roadway of the street on which the houses front, and not through the yards or under the houses. Such sewer will be constructed in the following manner:

House Sewers—Excavations.

The _____ will make the necessary excavation for the house sewer from the _____ wall to the _____ sewer in _____, making a

smooth bottom for each pipe, free from all projections of rock, and with the soil well rammed to prevent settling of the pipe.

House Sewer—Earthenware.

[NOTE.—*The laying of earthenware drain pipe for house sewers, in made or filled-in-ground, is prohibited by the Rules established by the Board of Health. But where the soil consists of a natural bed of loam, sand or rock, it is permitted to be laid from outside the cellar, vault or area wall to the street sewer, if laid in strict compliance with the following directions.*]

The will make a separate connection for each building with the sewer by an earthenware pipe inches in diameter, hard and salt glazed, and of an inch thick, run at a uniform grade of not less than $\frac{1}{4}$ inch per foot, extending the same to a point not less than two feet outside of the outer face of the front cellar, vault or area wall, as the case may be. Every section will be bedded in cement at the hub. The ends of the pipe will be wetted before applying the cement, and the space between each hub and the small end of the next section will be completely and uniformly filled with the best quality of hydraulic cement, care being taken to prevent any cement being forced into the drain to become an obstruction. No tempered-up cement will be used. A straight edge will be used, and the different pipe sections laid in perfect line on the bottom and sides.

House Sewer—of Iron.

Or the plumber will make a separate connection for each building with sewer in by inch extra heavy cast iron pipe, run at a uniform grade of not less than $\frac{1}{4}$ inch per foot, to a point just inside of the cellar or vault wall, as the case may be.

The house sewer in each case will be connected to the street sewer at a point directly in front of the house for which it is laid.

Old sewers or house drains can be used for new buildings only when found by a plumbing Inspector to conform in all respects to the regulations governing new sewers and drains. They will in each case be uncovered for examination by the

Notice will be sent to the Health Department when any sewer or drain pipe herein specified is ready for inspection; and it can be covered only after it has been examined and pronounced satisfactory by an Inspector from the Board of Health. In filling the trench no stones will be placed in contact with the pipe, and the earth will be thoroughly packed in without moving the pipe in the slightest degree, or starting any of the joints.

IV.—HOUSE DRAIN.

The plumber will make a proper connection with the house sewer by extra heavy cast-iron pipe, and set a inch extra heavy cast-iron

running, or half S trap just inside of the front wall, with a hand-hole for cleaning, covered with a screw cap, properly fitted.

A fresh-air inlet of extra heavy cast-iron pipe, not less than four inches in diameter, will be provided and properly connected with the house drain on the inlet side of the house trap, and extended up flush with the sidewalk near the street curb, and properly covered by a galvanized-iron grating leaded into the flagstone; or extending to not less than fifteen feet from any door or window, and opening at least 12 inches above finished grade, with cap, bend or grating.

The will build a box or manhole with cover about the drain trap, so as to make it readily accessible.

The plumber will continue the house drain of extra heavy cast-iron pipe inches in diameter, along the cellar wall or ceiling from trap to the point shown on the plan, giving it a uniform grade to the trap of not less than $\frac{1}{4}$ inch per foot. The house drain must not be laid beneath the cellar floor, unless the location of fixtures in the cellar or basement, or the drainage of yards, cellars or areas requires it to be so laid. Make necessary changes in direction by curvad pipes, and all connections by Y branch pipes and one-eighth or one-sixteenth bends. From the points shown on the plan, branch pipes of extra heavy cast-iron, to be connected with the drain pipe to receive the soil and waste pipes, the rain-water leader and the connections from the area, cellar, and yard drains.

All of said branch pipes to be of the diameter hereinafter described and as shown on accompanying plan of cellar drainage.

Where hand-holes for cleaning are provided on the house drain or its branches or their traps, or on the house-drain trap, proper ferrules with screw covers will be used and made gas tight.

V.—SURFACE DRAINAGE, ETC.

All yards, cellars, areas and light courts will be properly graded by the owner and drained as hereinafter specified. The traps for all such drains will be placed inside the cellar wall and made accessible.

Cellars will not be connected with the house drain unless absolutely necessary, dry cesspools being used where practicable. If connected to the house drain, running traps with cut off valves and proper water supply will be provided for each connection, as follows:

The will build in each yard, cellar, area and light court where shown on plans a brick cesspool or catch basin x x made water-tight if sewer connected; and the plumber will set over each a strainer and make connection therewith as specified.

Provide and set where shown on plans inch extra heavy cast-iron yard drain, connecting with house drain and trapped by inch running trap.

Provide and set where shown on plans inch area and light court drains connecting with the house drain and trapped by inch running trap.

If found necessary to prevent dampness, the owner will make the cellar and foundation walls impervious thereto by means of asphaltum or coal tar pitch and cement.

Subsoil drains will be provided where necessary. Their construction, trapping and special provision for maintaining their trap seal will be as follows :

VI.—UPRIGHT SOIL, WASTE, VENT AND DRAIN PIPES.

Soil Pipes.

For each water-closet or line of water closets and adjacent fixtures, as shown on plans, provide and set inch extra heavy cast-iron soil-pipe, connecting with the house drain by a Y branch and one-eighth or one-sixteenth bend and extending in full calibre two feet or more above the highest part of the roof or coping. If near a light shaft or other ventilating opening extend the soil pipe feet above it. The soil-pipe to have inch Y branches for water closets, and Y branches for other fixtures, where shown on plans.

Connect with above described Y branches inch iron pipe for iron water-closet traps, short lengths of four inch lead pipe for earthenware water-closet traps, and short lengths of inch lead pipe for other fixtures.

Waste Pipes.

Provide and set, with proper connections for each basin, bath, sink, urinal, wash tub, or tier of same, where shown on plans, inch extra heavy cast-iron waste-pipe, connecting with the house-drain, and terminating above the roof in the same manner as soil-pipe; said waste-pipe to be not less than four inches in diameter from below the roof upward. The waste pipe to have inch Y branches on each floor; and each of the set fixtures, where shown on plans, to be connected therewith by short lengths of inch lead pipe.

All branch soil and waste pipes must have fall of not less than $\frac{1}{4}$ inch per foot to the pipes into which they discharge.

Vent Pipes for Water-closet Traps.

Set for all water-closets and as shown on plans, inch extra heavy cast-iron vent pipe, connecting by short lengths of lead pipe not less than inches in diameter, with the crown of each water-closet trap, and inches in diameter for traps. Extend the main vent-pipe above the roof in the same manner as the soil pipe, and enlarge it to four inches in diameter from below the roof upward, or connect with the soil pipe above the highest fixture, as shown on approved plans.

Said vent-pipe to have inch T branches on each floor.

Vent Pipes for Other Traps.

Set for traps of all other fixtures, as shown on plans, inch extra heavy cast-iron vent-pipe, connected by short lengths of lead pipe inches in diameter, with the crown of each trap. Extend the main vent-pipe above the roof separately, in the same manner as the soil-pipes, and enlarged to four inches in diameter from below the roof upward, or connect with the waste pipe above the highest fixture, as shown on approved plans.

Said vent-pipe to have inch T branches on each floor.

There will be soil, waste and vent pipes extended above the roof of each building.

The arrangement of all pipes throughout the building will be as direct as possible, and all unnecessary offsets must be avoided.

All vent-pipes will be graded so as to discharge water collected by condensation, and connected at the bottom with the drain, soil or waste pipe, as shown on plans, and in such a manner as to avoid obstructions from accumulated rust. The bowing of vent-pipes must be avoided.

Whenever practicable, all pipes and traps will be left so that they may at all times be readily examined and repaired. Where they are necessarily placed in partitions or recesses in walls, they will be covered with face boards which will be fastened with screws, so as to be readily removed.

No caps, cowls or bends will be affixed to the tops of pipes opening above the roof, but in tenement-houses the opening of each will be protected by a strong wire basket securely fastened thereto.

All pipes above an extension roof will be extended above the roof of the main building when otherwise they would open within thirty feet of the windows of the main building or of an adjoining building.

The joints between all pipes and the roof will be made water tight by heavy sheet lead flashings or

Roof Drainage.

The will provide leader *outside* the house, of galvanized sheet iron inches in diameter; and the plumber will connect same with the house drain by a inch extra heavy cast-iron pipe, extending feet above level and a inch extra heavy cast iron running trap so placed beneath the ground or inside the cellar wall as to prevent freezing.

The will provide leader *inside* the house, of extra heavy cast-iron, inches in diameter, to be trapped at the base, if it opens near a ventilating shaft or window, and the plumber will make the joint between said leader and the roof by means of a brass ferrule and lead or copper tube properly connected.

When there is no sewer connection the leader above specified by inch will connect the
or with the street gutter

Safes and Safe Waste Pipes.

Underline all with sheet lead safes, of pounds per foot, with edges turned up at least inches, in a secure manner, to prevent overflow, each safe to be properly graded to the safe waste-pipe. Connect all safes with a inch pipe, discharging either into an open sink, or upon the cellar floor, as the Architect may direct. The branch pipe from each safe to the main safe waste will be inch pipe.

Water-closets enclosed by wood-work will be provided with drip trays.

Refrigerator Waste Pipes.

Line the spaces shown on plans and as prepared by carpenter, with pound sheet lead and connect each by a inch branch pipe with a special line of refrigerator waste-pipe. Said pipe to be inch pipe, so arranged as to discharge over a properly trapped and Croton-supplied sink, in set not more than three feet above the floor, and so placed as to be convenient for ordinary use, and with the end of the pipe covered by

In tenement houses the refrigerator waste-pipe will be extended two feet above the roof.

Provide over each outlet of the safe waste-pipes, and of each outlet from the refrigerator waste-pipes a strong metallic strainer. In no case will a refrigerator or safe waste-pipe be connected directly with the house drain or sewer, or with any pipe which connects with the house drain or sewer.

There will be line of refrigerator waste-pipe and lines of safe waste-pipes in each building.

VII.—TRAPS.

Trap every water-closet, urinal, sink, basin, bath and every wash-tub or set of tubs, and all other sewer-connected fixtures effectively in the manner shown on the plans; the traps to be as near the fixtures as practicable. The traps will be so arranged that in no instance will the waste from a fixture pass through more than one trap before entering the house drain.

The inside diameters of traps will be as follows :

For Water-closets,	inches.
Urinals,	"
Sinks,	"
Basins,	"
Baths,	"
Wash-tubs,	"

Pumps.

If the pressure of the Croton be found to be insufficient to supply any fixture or any water-closet tank, provide and set up a pump, to supply house tank or pumps for each and make all necessary connections as specified in detail under Water Supply.

X.—NUMBER, LOCATION AND DESCRIPTION OF FIXTURES.

Supply and set up in complete working order the following fixtures of the pattern and kind hereinafter described ; the exit pipes to wash basins, bath tubs, wash tubs and sinks to be provided with strong metallic strainers :

	Yard.	Cellar.	Basement.	1st Floor.	2d Floor.	3d Floor.	4th Floor.	5th Floor.	6th Floor.
Water Closets.....									
Urinals.....									
Wash Basins.....									
Bath Tub.....									
Wash Tub.....									
Sinks.....									
Pumps.....									
Refrigerators.....									

XI.—WATER-SUPPLY PIPES.

The plumber will grade each line of supply pipe so that it can be completely emptied at its lowest point.

Water pipes in exposed places will be packed by the with mineral wool, or other substance equally good, to prevent freezing, and will be properly boxed and cased to the satisfaction of the Board of Health.

The will excavate for and the will insert inch tap in street main, if necessary.

The plumber will connect tap and house supply at point indicated on the plans by inch lead pipe, to weigh per foot, to be laid feet below curb level.

Also place a stop-cock at to shut off the water when necessary.

Description of quality, diameter and weight of supply pipes to fixtures :

MECHANICS' LIEN LAW

FOR THE
CITY AND STATE OF NEW YORK.
1885.

LAWS OF NEW YORK, 1885.—CHAPTER 342.—AS AMENDED MAY
21st, 1887.

SECTION 1. Any person or persons, firm or firms, corporation or association, who shall hereafter perform any labor or service, or furnish any materials which have been used or which are to be used in erecting, altering or repairing any house, wharf, pier, bulkhead, bridge, vault, building or appurtenances to any house, building or building lot, including fences, sidewalks, paving, fountains, fish ponds, fruit and ornamental trees, with the consent of the owner, as hereinafter defined, or his agent or any contractor, or sub-contractor or any other person contracting with such owner to erect, alter or improve, as aforesaid, within any of the cities and counties of this State, may upon filing the notice of lien prescribed in the fourth section of this act, have a lien for the principal and interest of the price and value of such labor and material upon such house, wharf, piers, bulkheads, bridges, vault, building or appurtenances, and upon the lot, premises, parcel or farm of land upon which the same may stand or be intended to stand, to the extent of the right, title and interest at the time existing of such owner, whether owner in fee or of a less estate, or whether a lessee, for a term of years, or vendee in possession under a contract existing at the time of the filing of said notice of lien or of the owner of any right, title or interest in such estate, which may be sold under an execution under the general provisions of the statutes in force in this State, relating to liens of judgment and enforcement thereof, and also to the extent of the interest which the owner may have assigned by a general assignment for the benefit of creditors, within thirty days prior to the time of filing the notice of lien specified in the fourth section of this act. But in no case shall such owner be liable to pay by reason of all the liens filed pursuant to this act, a greater sum than the price stipulated and agreed to be paid in such contract, and remaining unpaid at the time of filing such lien, or in case there is no contract, than the amount of the value of such labor and material then remaining unpaid except as hereinafter provided.

DETROIT HEATING & LIGHTING CO., 126 Liberty St., N. Y.

Manufacturers of Heating and Lighting Apparatus.

§ 2. If the owner or such person in interest as aforesaid, of any house, wharf, pier, bulkhead, bridge, vault, building or appurtenances, for or toward the construction, altering, repairing or improvement of which labor and service have been performed or materials have been furnished by contract, whether oral or written, shall for the purpose of avoiding the provisions of this act or in advance of the terms of any contract, pay by collusion any money or other valuable thing on such contract, or give a mortgage or make any other lien or incumbrance upon said house, wharf, vault, building or appurtenances, lot, premises, parcel or farm of land upon which the same may stand or be intended to stand, or said improvement shall be made, and the amount still due or to become due to the contractor, sub-contractor or assignee after such payment has been made, shall be insufficient to satisfy the claims made in conformity with the provisions of this act, the owner or other person in interest as aforesaid, shall be liable to the amount that would have been unpaid to said contractor, sub-contractor or assignee, had said owner or other person in interest made no such payment or given no such mortgage, or effected no such lien or incumbrance, at the time of filing the notice of lien prescribed in the fourth section of this act, in the same manner as if no such conclusive payment, mortgage, lien or incumbrance had been made, given or effected.

§ 3. Any person or persons, firm or firms, corporation or association, performing any labor or service, or furnishing any materials for any of the purposes specified in the first section of this act, to or for any person other than the owner, may at any time demand of such owner or of his authorized agent, the terms of the contract or agreement by which said house, wharf, pier, bulkhead, bridge, vault, building or appurtenances is being erected, altered, repaired or improvements made to any such house, building or building lot, and the amount due or unpaid the person or persons, firm, corporation or association, erecting, altering, repairing or improving the same; and if such owner or his said agent at the time of said demand shall neglect or refuse to inform the person making such demand of the terms of the contract or agreement under which the same are being erected, altered, repaired or made, and the amount due and unpaid upon such contract or agreement therefor, or shall intentionally and knowingly falsely state the terms of said contract or agreement, or the amount due or unpaid thereon; and if the person, persons, firm or firms, corporations or associations furnishing such materials or performing such labor or service shall sustain loss by reason of such refusal or neglect or false statement, the said owner shall be liable to them in an action therefor and the return unsatisfied of an execution against the party to whom such materials were furnished, or for whom such labor and service were performed, in an action for the collection of the value thereof, shall be presumptive proof of such loss, and the person or persons, firm or firms, corporation or association furnishing such materials or performing such labor and service or making such improvement, shall by filing within the time and in the manner the notice of lien prescribed by this act, have a lien upon the house, wharf, vault, pier, bridge, bulkhead, building or appurtenances, and upon the lot, premises, parcel or farm of land upon which the same may stand or be intended to stand, or improvement is made, as in this act provided, for all materials furnished and labor and service performed after such neglect, refusal or false statement.

§ 4. At any time during the performance of the work, or the furnishing of the materials, or within ninety days after the completion of the contract or the final performance of the work, or the final furnishing of the material for which a lien is claimed, dating from the last item of work performed, or from the last item of material furnished, the person or persons, firm or firms, corporation or association furnishing such materials or performing such labor or service, may file a notice of lien in writing in the clerk's office in the county where the property is situated against which the lien is assessed, containing the names and residences of the claimants, the nature and amount of the labor and service performed, or the materials furnished or to be furnished, with the name of the owner, lessee, general assignee or person in possession of the premises against whose interests a lien is claimed; the name of the person or persons, firm or firms, corporation or association by whom he was employed, or to whom he furnished or is about to furnish such materials, or whether all the work for which the claim is made has been actually performed or furnished, and if not, how much of it, and also a description of the property to be charged with a lien sufficient for identification, and if in a city or village the situation of the building or buildings by street and number, if the street and number be known. But the failure to state the name of the true owner, lessee, general assignee, or person in possession shall not impair the validity of the lien. The said notice of lien must be verified by the person or one of the persons, member of a firm or firms, an officer of the corporation or association making the claim or his, its or their agent, to the effect that the statements therein contained are true to the knowledge or information and belief of the person making the same. The county clerk of each county shall provide and keep a book in his office to be called the "lien docket," which shall be suitably ruled in columns headed "claimants," "against whom claimed," "owners and parties in interest," "premises," "amount claimed"; in which he shall enter the particulars of such notice of lien together with the date, hour and minute of filing of the notice of lien, and what proceedings have been had, the names of the owners and persons in interest, and other persons against whom the claims are made shall be entered in said book in alphabetical order. A fee of twenty cents shall be paid to said clerk on filing such notice of lien. Every claimant shall within ten days after filing his notice of lien as herein provided, serve a copy of such notice upon the owner, or other person in interest by delivering the same to him personally or by leaving a copy thereof at his last known place of residence in the city or town in which said lands or part thereof are situated, with some person of suitable age and discretion, or if such owner or person in interest has no such residence, or such person cannot be found, by affixing a copy thereof conspicuously on said premises described in said notice of lien, between the hours of nine o'clock in the morning and four o'clock in the afternoon. And after such service such owner or the person in interest shall not be protected in any payment made to such contractor or other claimant.

§ 5. The liens provided for in this act shall be preferred as prior liens to any conveyance, judgment or other claim which was not docketed or recorded at the time of filing the notice of lien prescribed in the fourth section of this act, and prior to advances made upon any mortgage on the premises after the filing of such

notice of lien, and prior to the claim of any creditor who has not furnished materials or performed labor upon any land, or towards the erection or improvement of premises, described in said notice of lien and which have been assigned by the owner, lessee or person in possession thereof, by a general assignment for the benefit of creditors within thirty days before the filing of the notice of lien provided for in the fourth section of this act. But nothing in this act shall affect the priority of the amount actually owing on a mortgage given for purchase-money. In cases in which the owner has made an agreement to sell and convey the premises to the contractor or other person, such owner shall be deemed to be the owner within the intent and meaning of this act, until the deed has been actually delivered and recorded, conveying said premises pursuant to such agreement.

§ 6. No lien provided for in this act shall bind the property therein described, for a longer period than one year after the notice of lien has been filed, unless within that time an action is commenced to enforce the same; and if the action is in a court of record, a notice of the pendency of such action is filed with the county clerk of the county in which such notice of lien is filed, containing the names of the parties to the action, the object of the action, and the description of the premises affected thereby, and the time of filing the notice of lien. Or unless an order be made by a court of record continuing such lien and a new docket be made stating such fact. And when a claimant is made a party defendant to any action brought to enforce any other lien, such action shall be deemed an action to enforce the lien of such defendant, who is a claimant within the provisions of this act. The neglect to file the notice of pendency, provided for by this act, shall not abate any action which may be pending to enforce the lien, but such action may be prosecuted to judgment against the person or persons, firm or firms, corporation or associations liable for the debt.

§ 7. Any claimant who has filed the notice of lien mentioned in the fourth section of this act, may enforce his claim against the property therein mentioned, and against the person or persons, firm or firms, corporation or association, liable for the debt, by a civil action in a court of record in the city or county where the property is situated, which would have jurisdiction to render a judgment in an action founded upon a contract, for a sum equal to the amount of the lien.

§ 8. The manner and form of instituting and prosecuting any such action to judgment, or an appeal from such judgment shall be the same as in actions for the foreclosure of mortgages upon real property, except as herein otherwise provided. A certified copy of the notice of lien filed, as herein provided, shall be entitled to be read in evidence, with the same force and effect as if the original were provided [produced], and such copy shall be *prima facie* evidence of the execution and filing of the original.

§ 9. An action to foreclose a lien, provided for in this act, may be brought in a court not of record, which would have jurisdiction to render a judgment in an action upon a contract for a sum equal to the amount of the lien, and shall be commenced by the personal service anywhere within this State, of a summons and a

complaint verified according to the provisions of section five hundred and twenty-six of the Code of Civil Procedure, upon the owner or other person in interest as described heretofore in this act. The complaint must set forth substantially all the facts contained in the notice of lien filed with the clerk of the county as provided in section five of this act, and the substance of the contract. The form and contents of the summons shall be the same as prescribed by the Code of Civil Procedure for the commencement of an action in a court not of record. The summons must be returnable not less than twelve nor more than twenty days after the date when it is issued.

§ 10. When the summons in an action in a court not of record cannot be served personally on the owner or party in interest, by reason of absence from the State or concealment therein, such service may be made by leaving a copy of such summons at the last place of residence of such owner or person in interest, as aforesaid, and by publishing a copy of such summons for three weeks in succession in a newspaper published in the city or county where the property is situated. If the service of the summons is made by publication, the time when said summons is returnable shall commence to run from the day of the last publication.

§ 11. At the time and place specified in the summons for the return thereof, issue must be joined if both parties appear, by the owner or other person in interest filing with the justice an answer in writing verified as herein provided for verifying the complaint, and which may contain a general denial of each allegation of the complaint or a specific denial of one or more of the material allegations thereof; it may also set forth any legal or equitable defense or counter-claim to such complaint. If the owner or other party in interest fails to appear on the return day of the summons on proof by affidavit of the service of the summons and complaint, if personal service thereof be made, or if by publication or [on] proof of the service of summons by advertisement, judgment may be entered for the amount claimed in the complaint with the cost; execution may thereupon be issued for the collection of said judgment and costs, the same as upon judgments in action on contract in such courts, except that the execution shall direct the officer to sell the right, title and interest of the owner or other person in interest as aforesaid in the premises, upon which the claim set forth in the complaint was a lien at the time of filing the notice of lien prescribed in the fourth section of this act.

§ 12. The issue joined as provided in the preceding section, must be tried the same as other issues are tried in the respective courts in which the action is brought, and the judgment thereon be enforced; if for the claimant, as provided in the preceding section; if for the owner or other person in interest, it must be enforced the same as in actions arising on contracts in the respective courts.

§ 13. Appeals may be taken from such judgments rendered in courts not of record, in the same manner and according to the same provisions provided by statute for appeals from judgments in actions in such courts arising on contract for the recovery of money only.

§ 14. Cost and disbursements, except in courts not of record, in which they shall be the same as allowed in civil actions in such courts, shall rest in the discretion of the court, and may be awarded to or against the plaintiff or plaintiffs, defendant or defendants, or any or either of them as may be just and equitable except as provided in section nineteen of this act, and shall be included in the judgment recovered therein. The expenses incurred in serving the summons by publication may be allowed in courts not of record, and added to the amount of costs now allowed in said courts. When an action is brought in a court of record such direction shall be made in the discretion of the court as to the payment of costs as shall be just and equitable, and the judgment entered shall specify to whom and by whom the costs are to be paid.

§ 15. Whenever in any action brought under the provisions of this act, any claimant shall fail, for any reason, to establish a valid lien, he may nevertheless recover therein judgment against the party or parties to the action for such sum or sums as may appear to be due to him, and which he might recover in an action upon a contract against the said party or parties.

§ 16. A transcript of every judgment rendered under and according to the provisions of this act headed "lien docket" shall be furnished by the clerk of the county where rendered and docketed to the successful party, who may file the same with the clerk of any other county, and if the judgment is for twenty-five dollars or upwards, exclusive of costs, the same shall thereafter be a lien on the real property in the county where the same is filed and docketed of every person against whom the same is rendered, in like manner and to the same extent as in other actions for the recovery of money arising on contracts. When the action is tried and the judgment rendered in a court not of record, the justice of the court in which the action is tried or other person authorized to furnish transcripts of judgments therein shall furnish the successful party a transcript thereof, who may file the same with the clerk of the county with whom the notice of lien is filed. The filing of such transcript shall have the same effect as the filing of transcripts of judgments rendered in such courts not of record. In all cases where the judgment is against the claimant or claimants the county clerk shall enter the word "discharged" under the last head in his lien docket.

§ 17. If any person or persons, firm or firms, corporation or association, filing a notice of lien, or the assignee of such person or persons, firm or firms, corporation or association, after the filing thereof, shall be the plaintiff in such action. The plaintiff must make the parties who have filed notices of liens against the property as well as those who have subsequent liens and claims by judgment, mortgage or conveyance, parties defendant. And as to all persons, firms, corporations or associations against whom no personal claim is made, the plaintiff may with the summons serve a notice stating briefly the object of the action, and that no personal claim is made against it or them. And all persons, firms, corporations or associations, who have filed notice of liens under this act shall by answer in such notice set forth the same, and the court in which the action is brought may settle and determine the equities of all the parties thereto, and decide as to

the extent, justice and priority of the claims of all parties to the action and upon every counter-claim or set-off alleged therein, to the extent of their respective jurisdictions. The provisions in this section in regard to making parties who have filed notices of liens against the property as well as those who have subsequent liens and claims by judgment, mortgage or conveyance, parties defendants shall not apply to proceedings to enforce liens instituted in courts not of record.

§ 18. Any person, firms, corporations or associations claiming liens upon the same property may join in the same action, and when separate actions are commenced the court in which the first action was brought may, upon the application of the owner, of the property or of any part thereof, or of any party to either action, consolidate them. The provisions of this section shall not apply to actions commenced in courts not of record.

§ 19. At any time after an action is commenced, the owner or owners of the property affected, may, in writing, offer to pay into court any amount stated in the offer, or to execute and deposit any securities or papers which he may describe, in discharge of the lien or liens. If the offer is accepted in writing within ten days thereafter, the court in which the action is pending may make an order that on executing and depositing with the clerk of the county the amount offered or the securities or papers described, the lien or liens be discharged and the moneys or securities deposited take the place of the property upon which such lien or liens was or were created, and shall be subject to the same. In case the offer shall not be accepted within ten days, and the plaintiff fails to recover any more favorable judgment against the property, he shall pay any costs in the action incurred by the owner from the time of the offer.

§ 20. All persons, firms, corporations or associations entitled to liens, under the provisions of this act, except those who contracted with the owner, shall be deemed sub-contractors, and the court in the judgment shall direct the amount due sub-contractors and workmen to be paid out of the proceeds of sales in their order of priority as herein provided before any part of such proceeds are paid to the contractors. In case of several buildings erected, altered or repaired under one contract, and of conflicting liens, each lienor shall have priority upon the particular building or premises where his labor is performed or his material used. Persons standing in equal degree as co-laborers or various persons furnishing materials, shall have priority according to the date of filing their liens, provided, however, that in all cases workmen or laborers working for daily or weekly wages shall have preference over employers of labor, sub-contractors or contractors, without reference to the date when such workmen or laborers shall have filed their liens. Where several notices of liens are filed for the same demand, as in case of a contractor including claims for workmen to whom he is indebted and the liens by the workmen, the judgment shall provide for the proper payment, in order of priority as herein provided, so that under the liens filed double payment shall not be required and no payments voluntarily made upon any claim which has been filed as a lien shall impair the lien of any person except the lien of the person so paid to the amount of such payment.

§ 21. In every case in which different liens are asserted against property, the court in the judgment must declare the propriety of each lien, and the proceeds of the sale of the property must be applied to each lien in the order of its priority.

§ 22. Whenever, by the terms of his contract, the owner has stipulated for the delivery of bills, notes or other obligations or securities, or of any other species of property in lieu of money, the judgment may direct that such substitute be delivered or deposited as the court may direct and the property affected by the liens can only be directed to be sold in default of the owner to deliver said substitutes within such time as may be directed.

§ 23. Whenever, on the sale of property against which a notice of lien is filed as provided in the fourth section of this act, there is a deficiency of proceeds, judgment may be docketed for the deficiency against the persons, firms, corporations or associations named in the judgment as personally liable therefor, and therein adjudged to pay the same in like manner and with like effect as in actions for the foreclosure of mortgages. The provisions of this section shall not apply to actions commenced in courts not of record.

§ 24. A lien may be discharged as follows :

1. By filing a certificate of the claimant or his successor in interest, duly acknowledged or proved, stating that the lien is satisfied and may be discharged.

2. By depositing with the county clerk, if before the suit, of a sum of money equal to the amount claimed, with interest to the time of such deposit.

3. After the commencement of the action, by the deposit with the clerk of the county of such sum of money as in the judgment of the court, after due notice to all claimants or parties to the action, will be sufficient to pay any judgment which may be recovered against the property. In case the deposit of money is made with the county clerk as provided in subdivisions two and three of this section, the same shall be repaid by said clerk to the party making such deposit, or his assigns, upon the lien or liens being discharged by the claimants who have filed a notice or notices of lien or liens.

4. By the lapse of time. When one year has elapsed from the time of filing the notice of lien, and no action has been commenced either to enforce such claim or order of the court made containing said lien, as provided in section six of this act.

5. By order of the court for neglect of the claimant to prosecute the same, as hereinafter provided. The owner of the property or of any part thereof affected by any notice of lien filed under this act, or the person or persons, firms, corporations or associations against whom the claim is made, may, at any time after the filing of the notice of lien, serve a notice in writing upon the claimant or any one of several claimants united in interest, or by leaving such notice at his last known place of residence, with some person of suitable age, with direction to deliver the same, requiring said claimant to commence an action to enforce the claim within the time to be specified in the notice, which shall not be less than thirty days from the time of such service ; or to show cause at a special term of any court of record, at which a motion might be made in an action to enforce the lien or at a county court of the county in which the property is situated, at a time to be specified in such notice, why the notice of lien filed should not be vacated and canceled of record. Thereupon, upon due proof of the service of said notice, and that no

action has been commenced to enforce the claim, the court may make an order that the claim be vacated and canceled of record.

6. By the owner of the premises, person or persons, firm or firms, corporations or associations against whom or which the notice of lien is filed, executing with two or more sufficient securities, who shall be freeholders, a bond to the clerk of the county where the premises are situated, in such sum as the court may direct, not less than the amount claimed in said notice, conditioned for the payment of any judgment which may be rendered against the property. The sureties on said bond must justify in at least double the sum named in said bond. A copy of said bond, with a notice that the sureties will justify before the court or a judge thereof, at the time and place therein named, not less than five days thereafter, must be served on the claimant or his attorney. Upon the approval of said bond by the court or a judge thereof, an order discharging such lien may be made by the court or a judge thereof.

§ 25. This act is hereby declared to be a remedial statute and is to be construed liberally to secure the beneficial interests and purposes thereof; and a substantial compliance with its several provisions shall be sufficient for the validity of the lien or liens hereinbefore provided for, and to give jurisdiction to the courts to enforce the same.

§ 26. Chapter one hundred and eighty-four of the laws of eighteen hundred and forty-six, chapter one hundred and sixty-nine of the laws of eighteen hundred and fifty-one, chapter three hundred and eighty-four of the laws of eighteen hundred and fifty-two, chapter four hundred and two of the laws of eighteen hundred and fifty-four, chapter six hundred and sixty-three of the laws of eighteen hundred and fifty-seven, chapter four hundred and seventy-eight of the laws of eighteen hundred and sixty-two, chapter five hundred of the laws of eighteen hundred and sixty-three, chapter three hundred and sixty-six of the laws of eighteen hundred and sixty-four, chapter seven hundred and seventy-eight of the laws of eighteen hundred and sixty-five, chapter five hundred and fifty-eight of the laws of eighteen hundred and sixty-nine, chapter one hundred and ninety-four of the laws of eighteen hundred and seventy, chapter four hundred and eighty-nine of the laws of eighteen hundred and seventy-three, chapter five hundred and fifty-one of the laws of eighteen hundred and seventy-four, chapter three hundred and seventy-nine of the laws of eighteen hundred and seventy-five, chapters one hundred and forty-three and four hundred and eighty-six of the laws of eighteen hundred and eighty, sections eighteen hundred and seven to eighteen hundred and twenty-three inclusive of chapter four hundred and ten of the laws of eighteen hundred and eighty-two, sections eleven to twenty-seven inclusive of chapter two hundred and seventy-six of the laws of eighteen hundred and eighty-three and all acts amendatory of the above-mentioned acts, or extending the provisions thereof, are hereby repealed. But this act shall not be so construed as to affect, enlarge, invalidate or defeat any lien or right to a lien now existing, or any proceeding to enforce such lien, now pending by virtue of any of the provisions of the acts hereby repealed, nor to revive any other or former acts or parts of acts repealed by the acts hereby repealed.

§ 27. This act shall take effect immediately.

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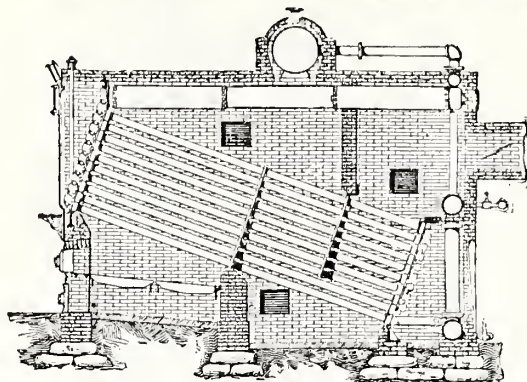
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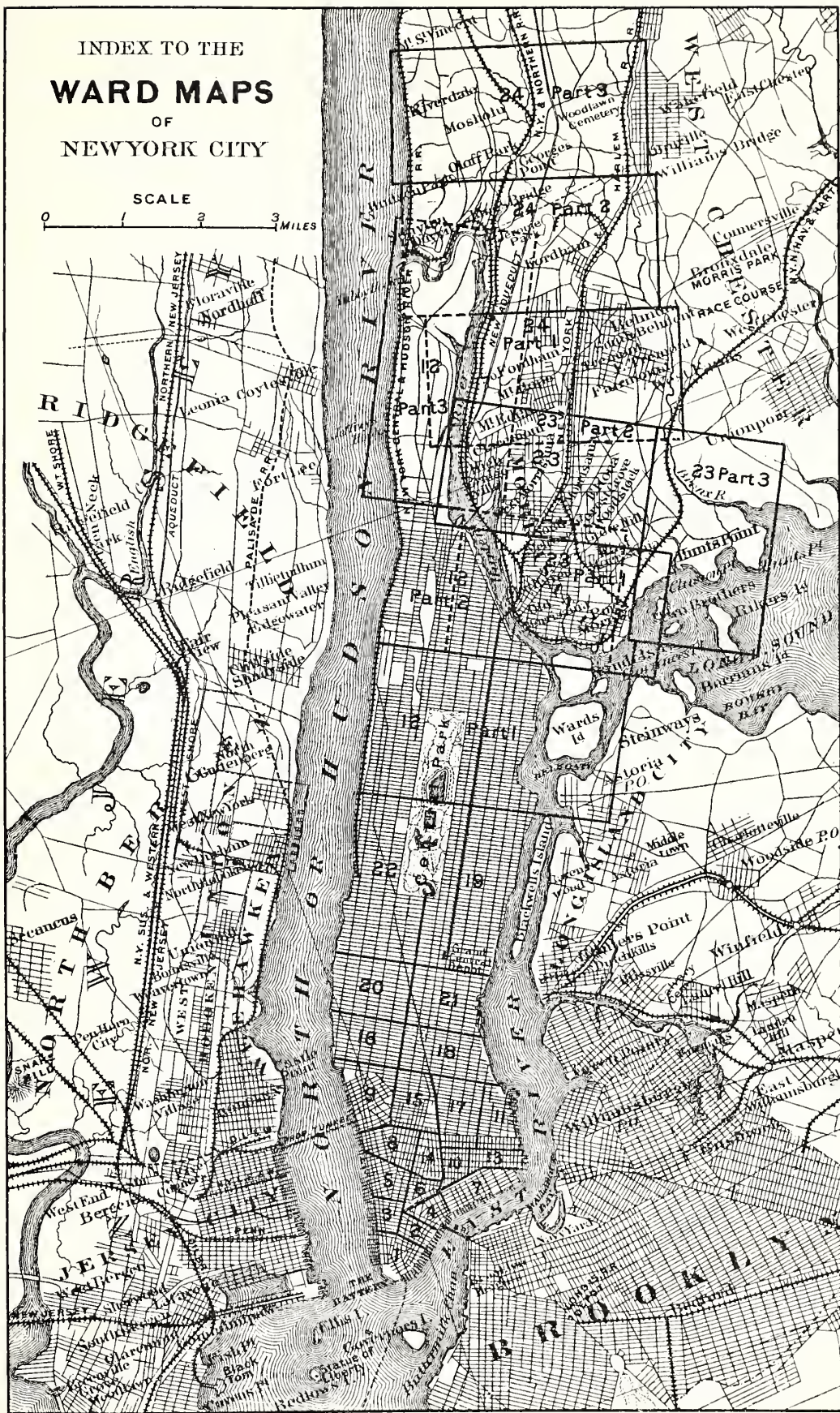
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INDEX TO THE WARD MAPS OF NEW YORK CITY

SCALE
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For Church and Home.

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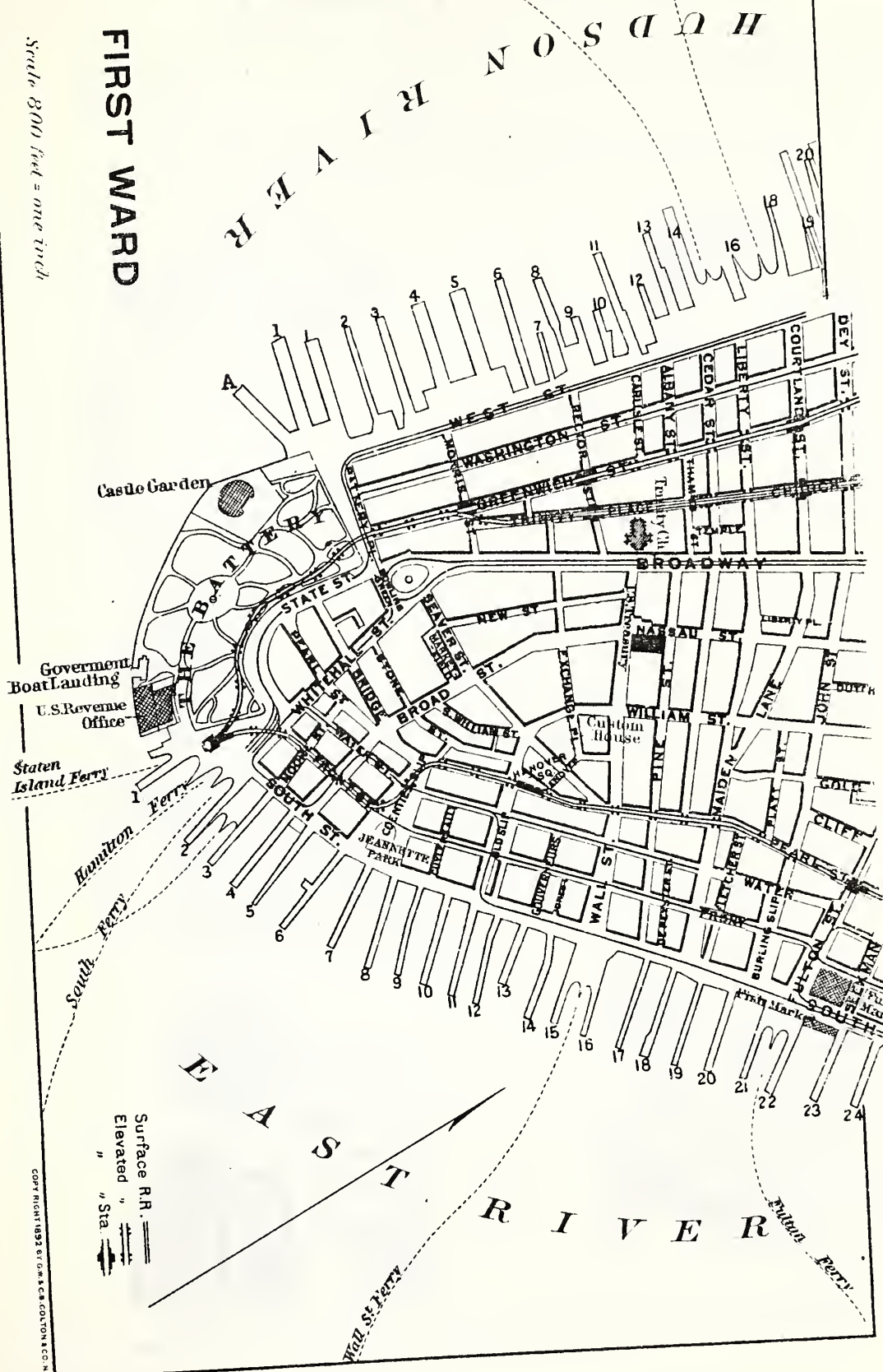
New York City.



→ Memorials. →

FIRST WARD

Scale 800 feet = one inch



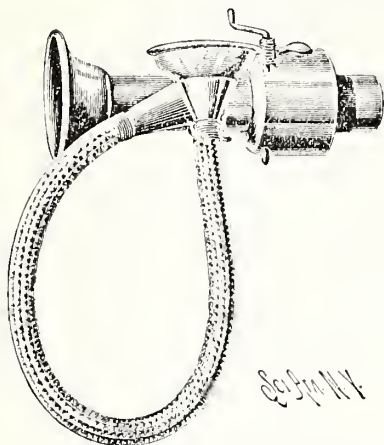
"EARIPHONE."

FRED. SCHLÜCHTNER,

PATENTEE AND INVENTOR.

2661 ATLANTIC AVENUE, BROOKLYN, N. Y., U. S. A.

TELEPHONE CALL, 55 EAST NEW YORK.



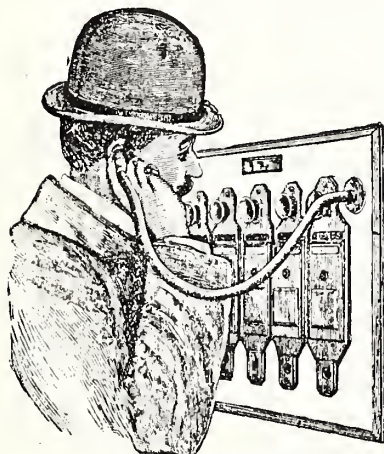
DETAILS OF SPEAKING TUBE.

The accompanying illustrations represent the practical working of an extremely simple improvement in speaking tubes, the mouth piece being provided with an attached ear piece, whereby messages may be more conveniently received and transmitted. This improvement has been patented by Mr. Frederick Schluchner, of No. 2661 Atlantic Avenue, Brooklyn, N.Y.

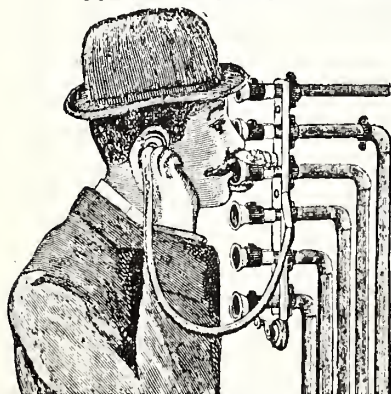


"EARIPHONE."

One of the illustrations shows the improvement in use in the hallway or vestibule of a house, another representing its employment in a factory, where the different floors are thus held in communication with the office. The mouth piece may be of the usual form, but the tube in front of the whistle has an opening at one side, surrounded by a tube leading into an attached flexible tube, at the end of which is an ear cup. The branch tube leading from the side opening, in front of the mouth piece, leads backward at a slight angle from the main tube, and the branch tube is also made tapering, the flexible tube being secured to its smaller end. When a person blows into the speaking tube, the air exerts its full force upon the whistle in the usual way, not being diverted into the branch tube. In like manner, in speaking into the tube, the voice is projected forward in the usual way; but one can likewise hear the return message, without change of position, the voice in this case being diverted into the branch tube, and thence through the flexible tube to the ear cup, so that a conversation may be carried on without constantly changing the end of the tube from the mouth to the ear, and *vice versa*. A fork supports the ear cup when the mouth piece is not in use. This invention can be applied to any existing form of speaking tubes.

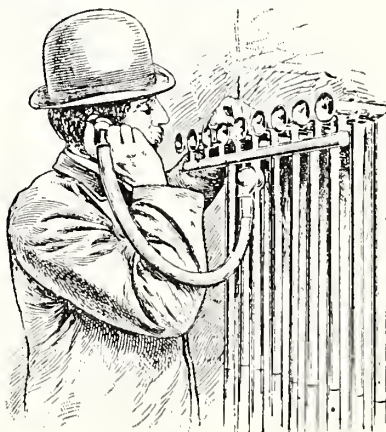


USE IN A VESTIBULE.



USE IN A MANUFACTORY.

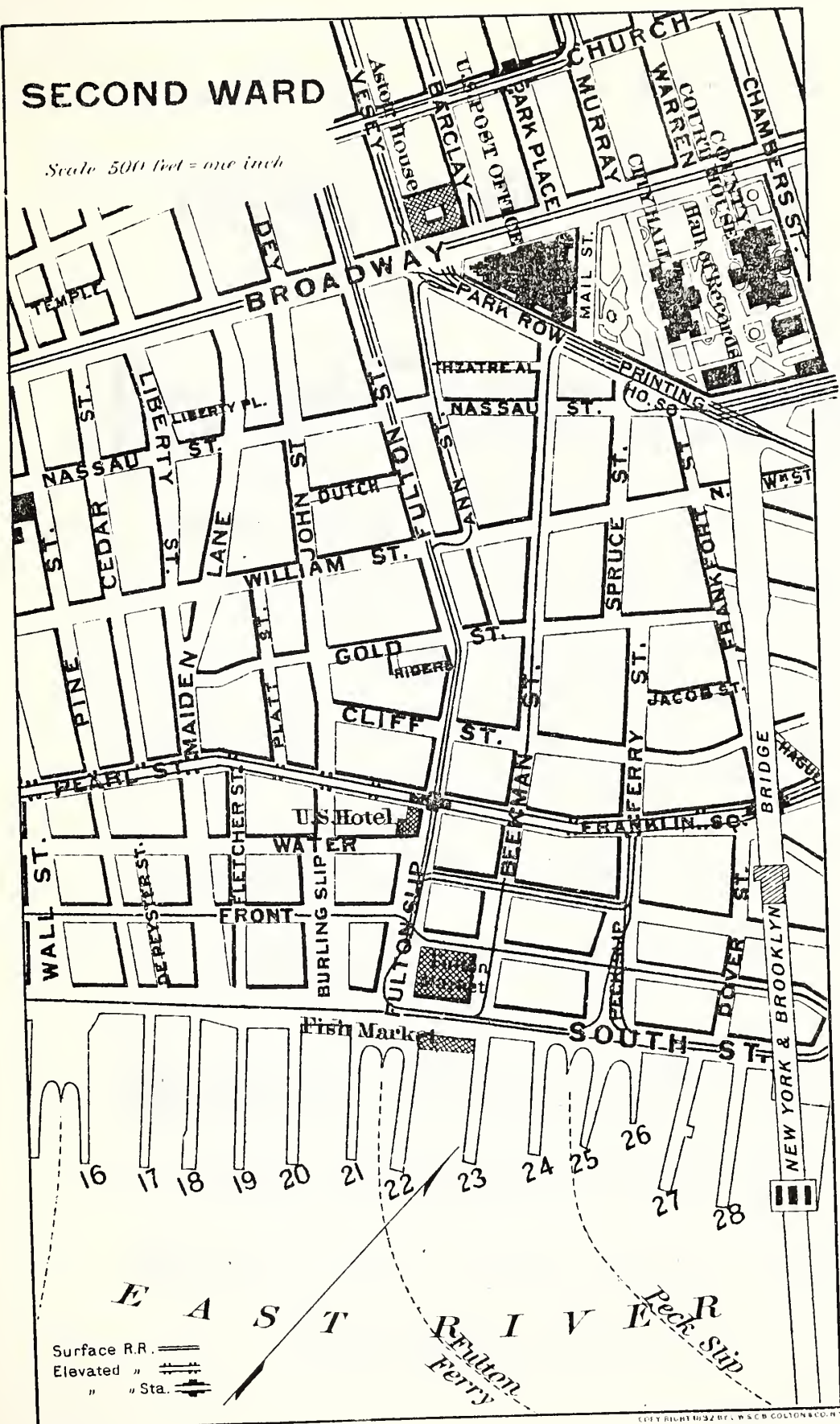
This invention has also been patented in Canada, England, France, Belgium, Germany, Austria, Italy, Switzerland and Spain.



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SECOND WARD

Scale 500 feet = one inch



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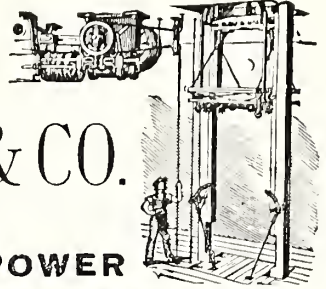
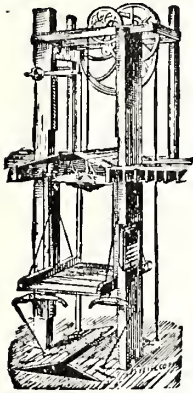
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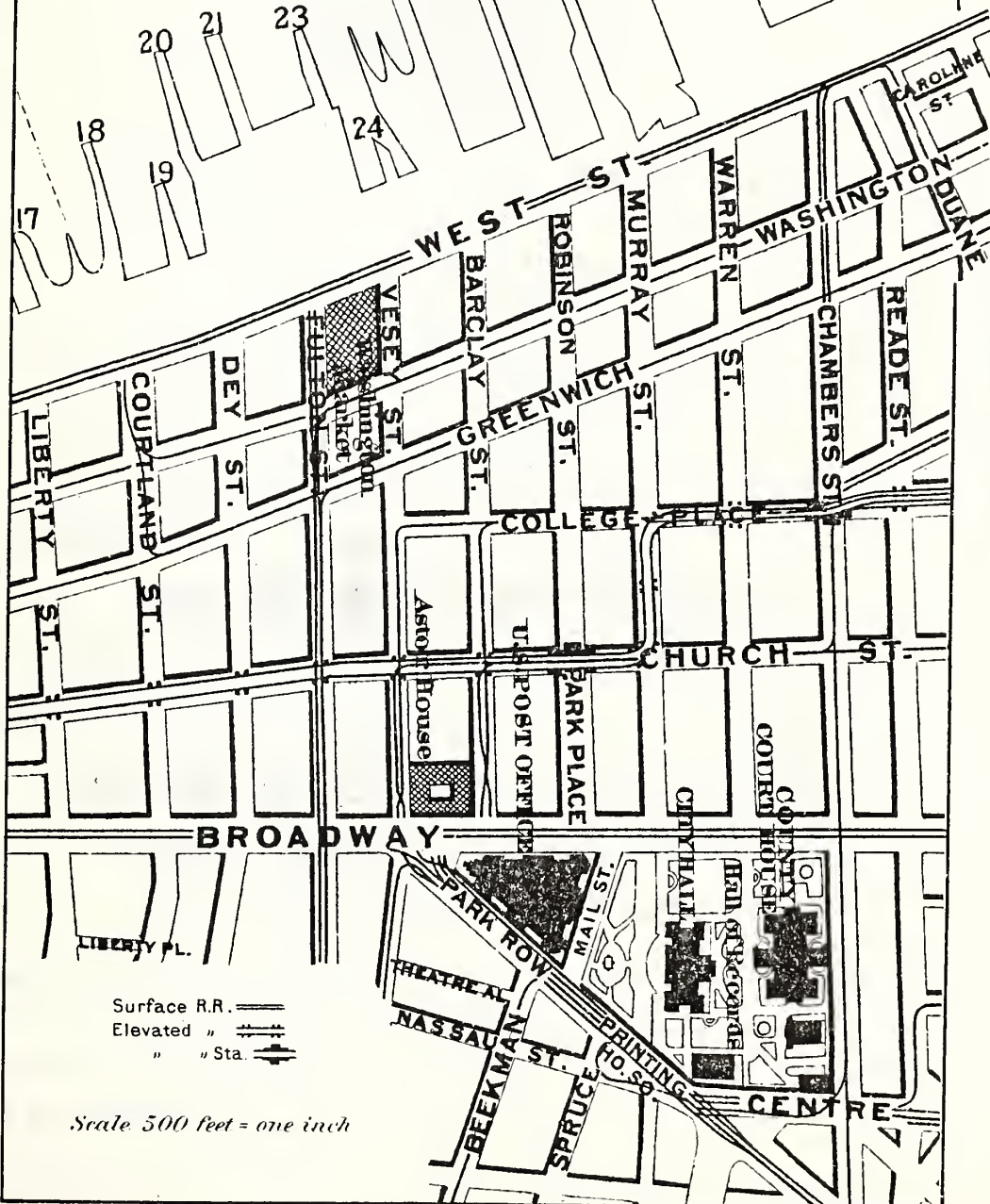
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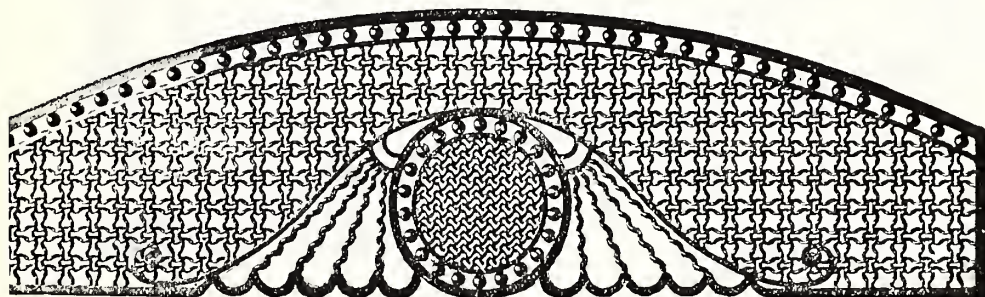
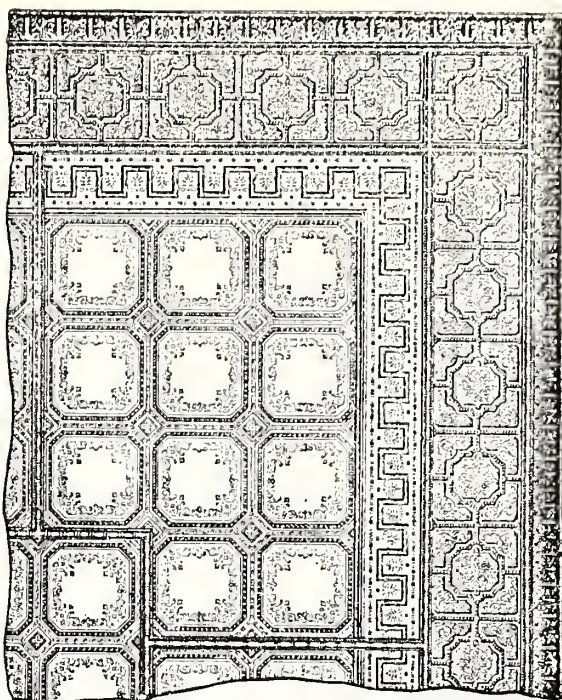
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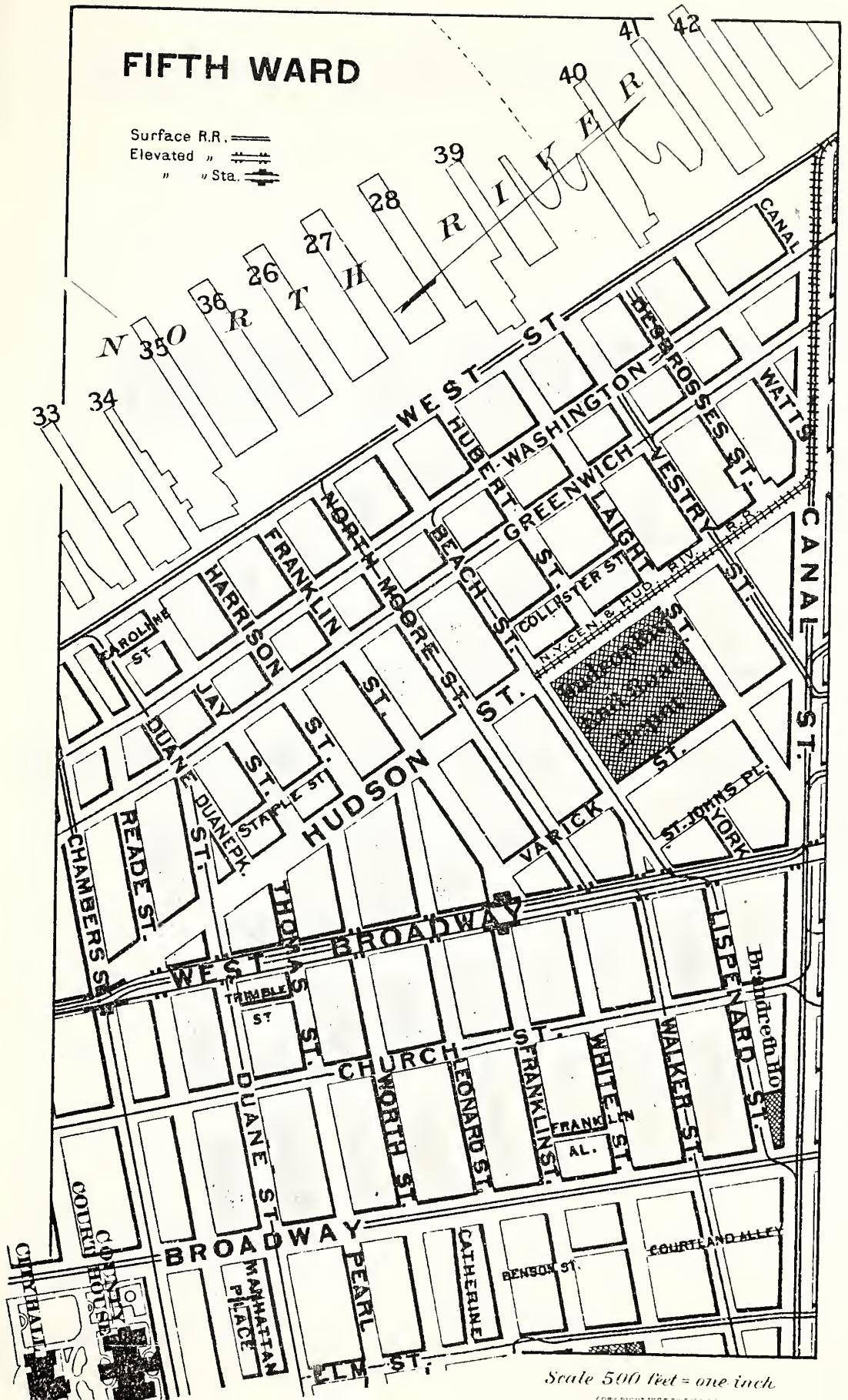
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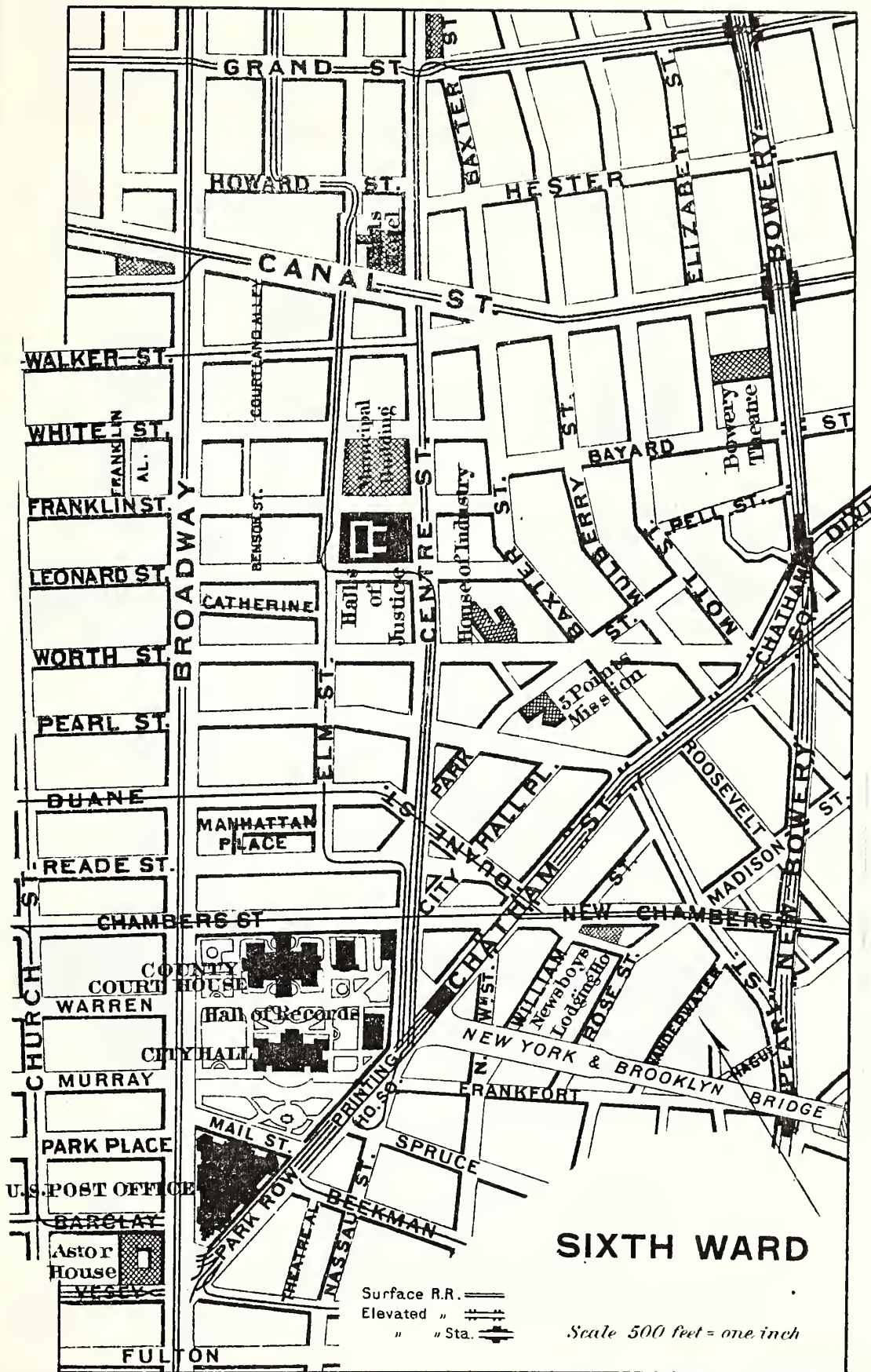
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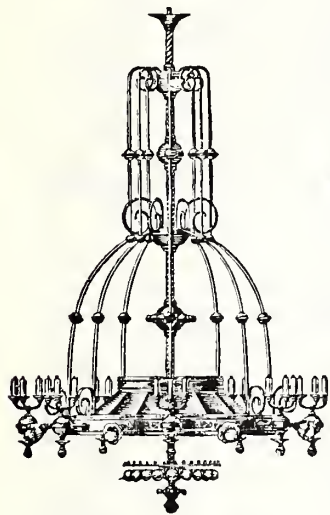
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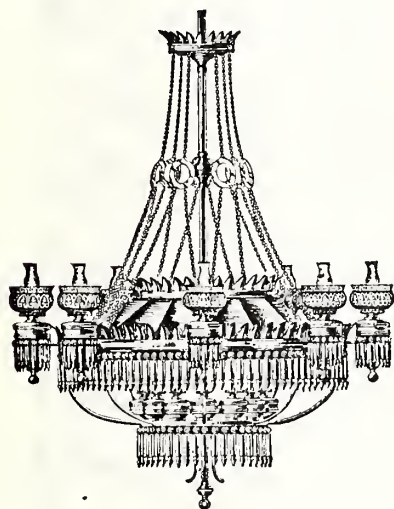
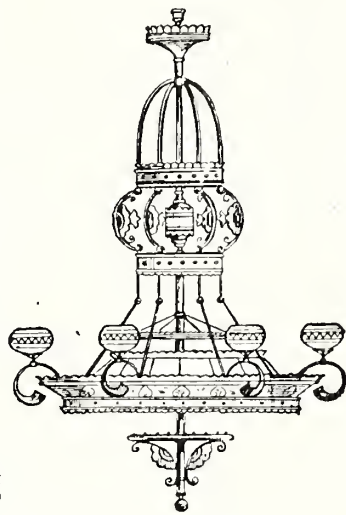
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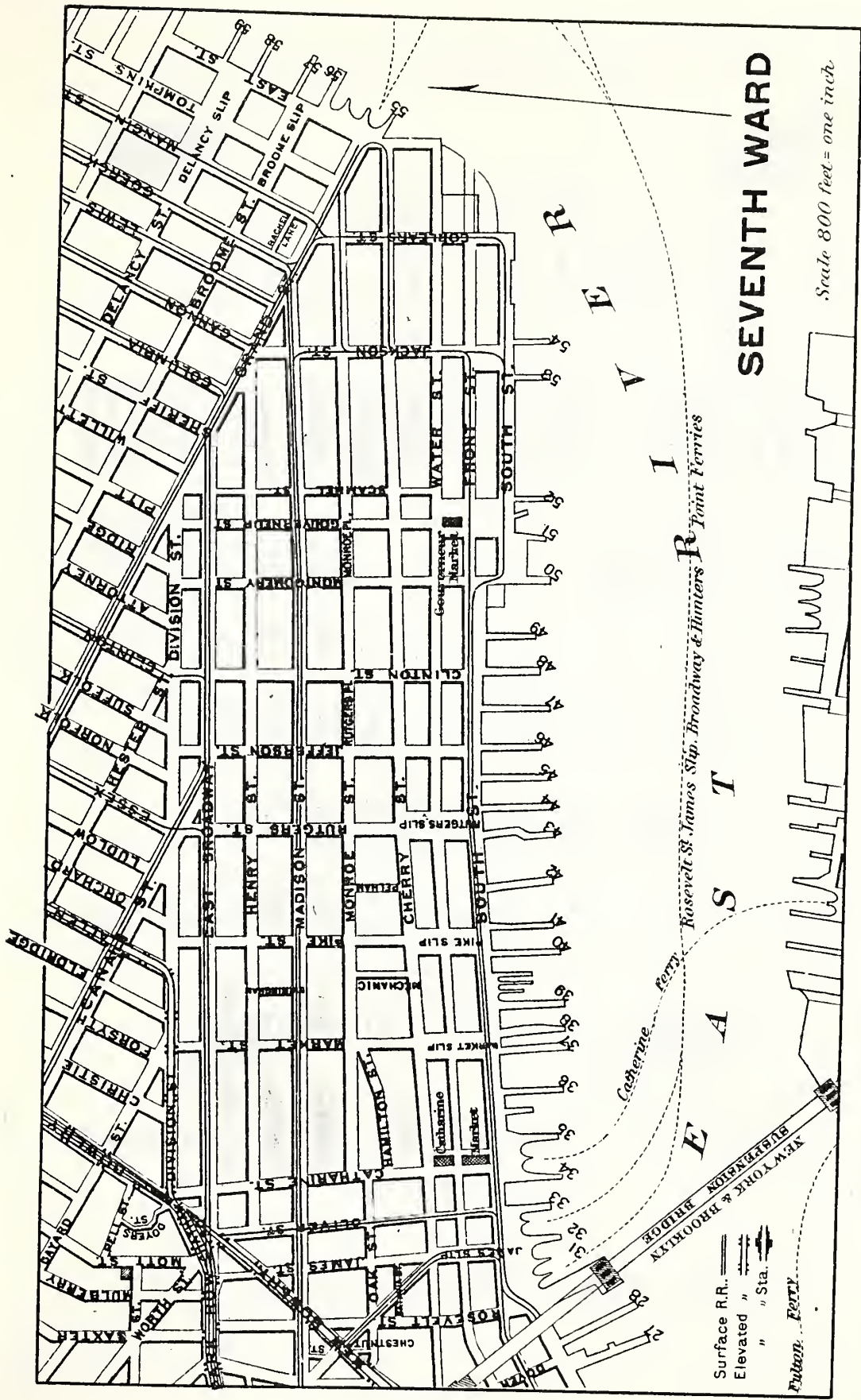
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SEVENTH WARD

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 " " Sta. —

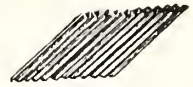
Fulton Ferry

Rosevelt St. James Slip. Broadway & Hunters R. Ferry



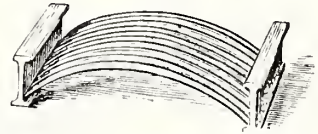
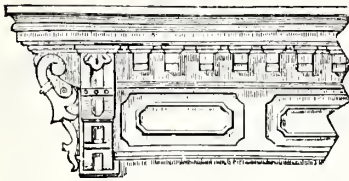
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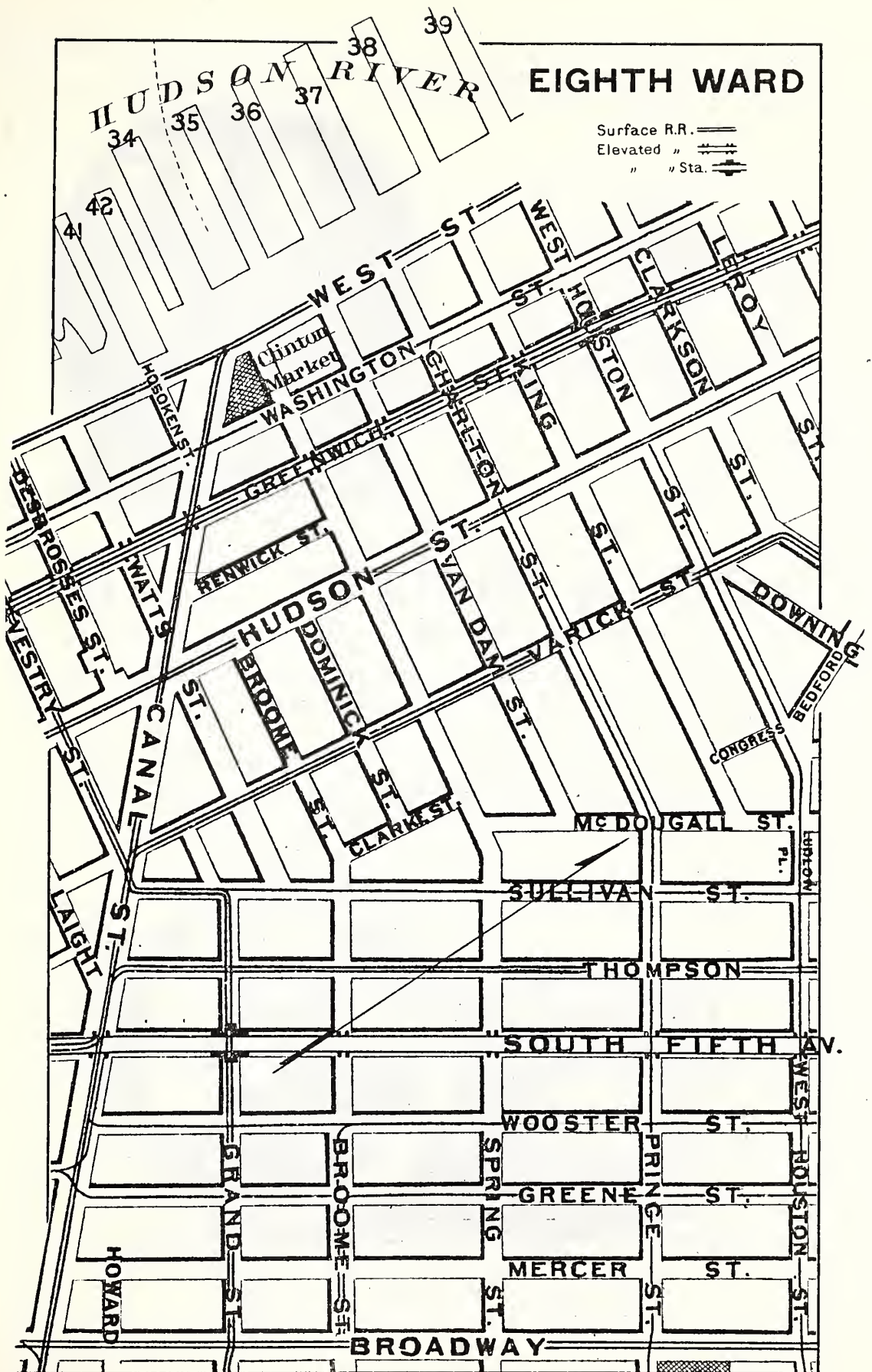
RIDGED.



ROOFING.

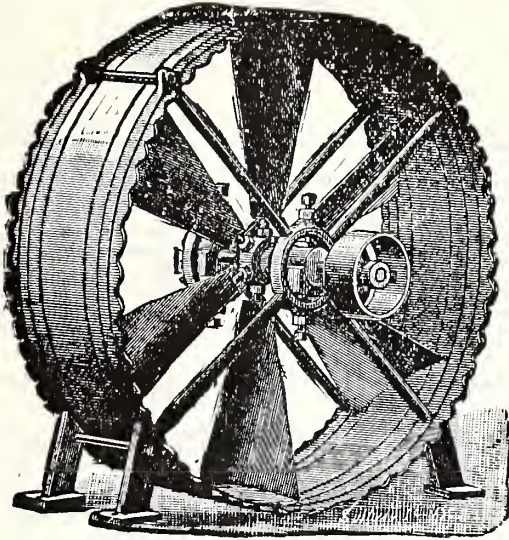
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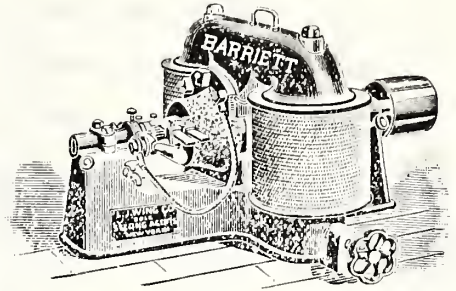
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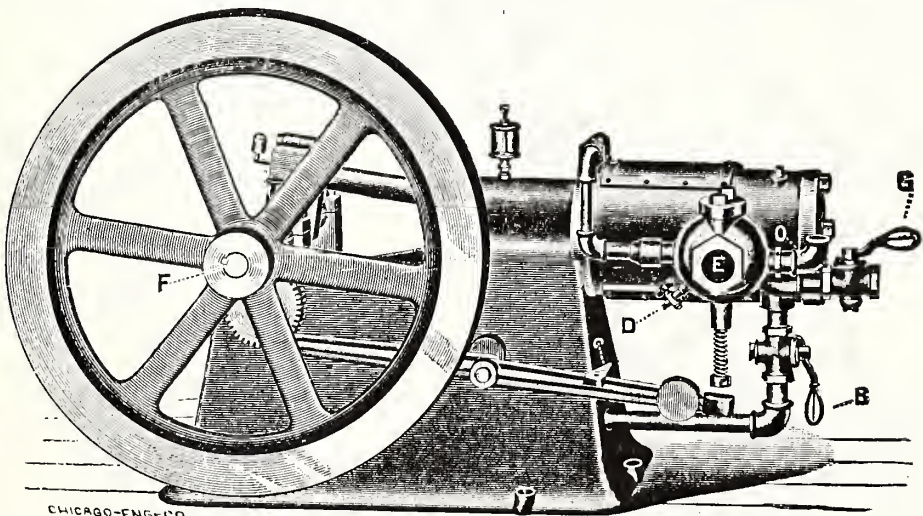
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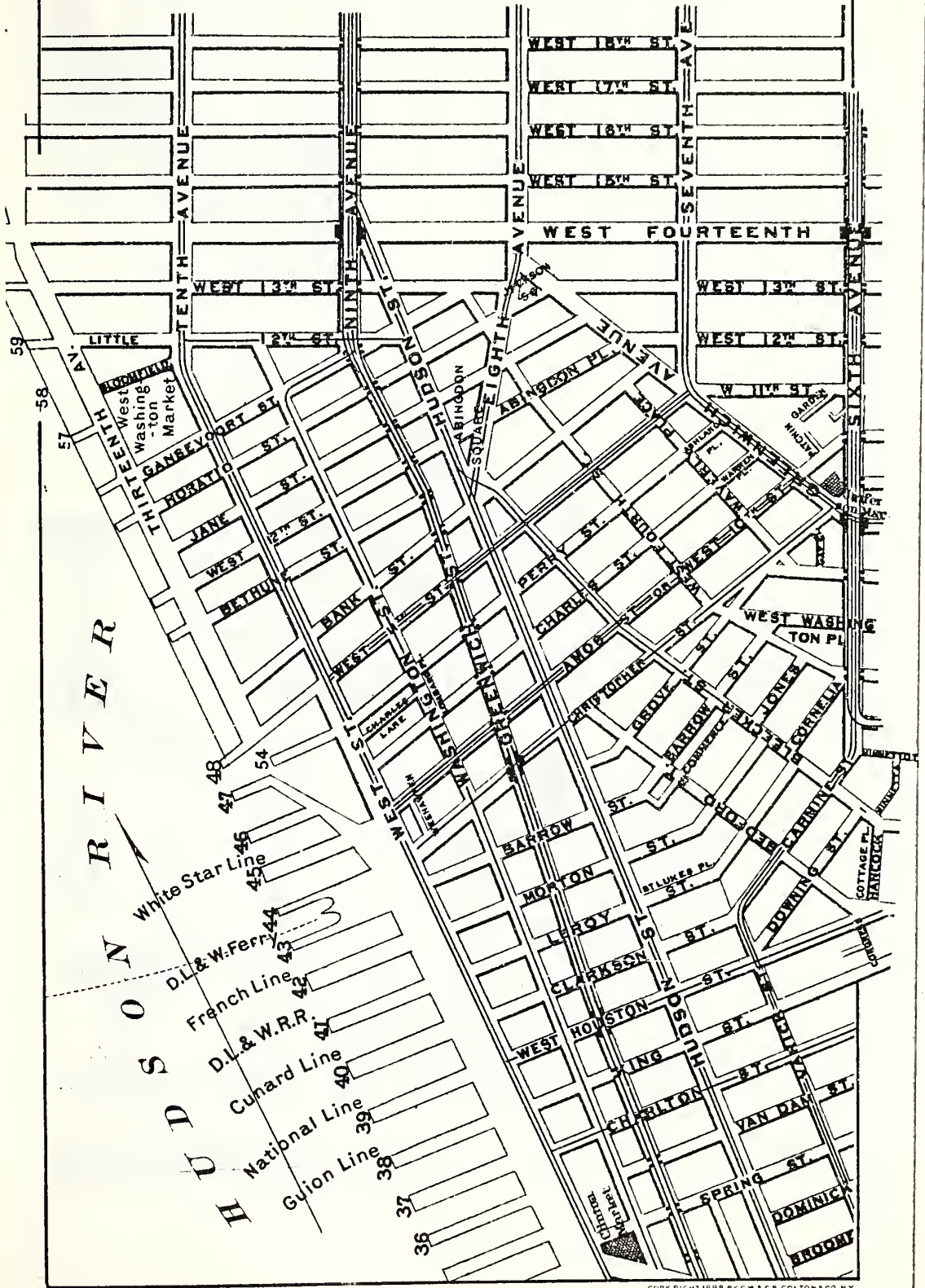


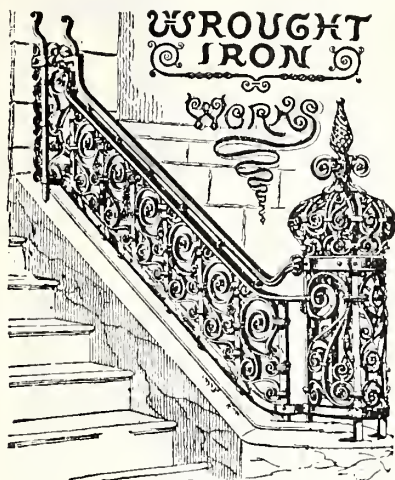
CORRESPONDENCE SOLICITED

Surface R.R. 
 Elevated " 
 " " Sta. 

NINTH WARD

Scale 800 feet = one inch





17 E. 37TH STREET, N. Y.

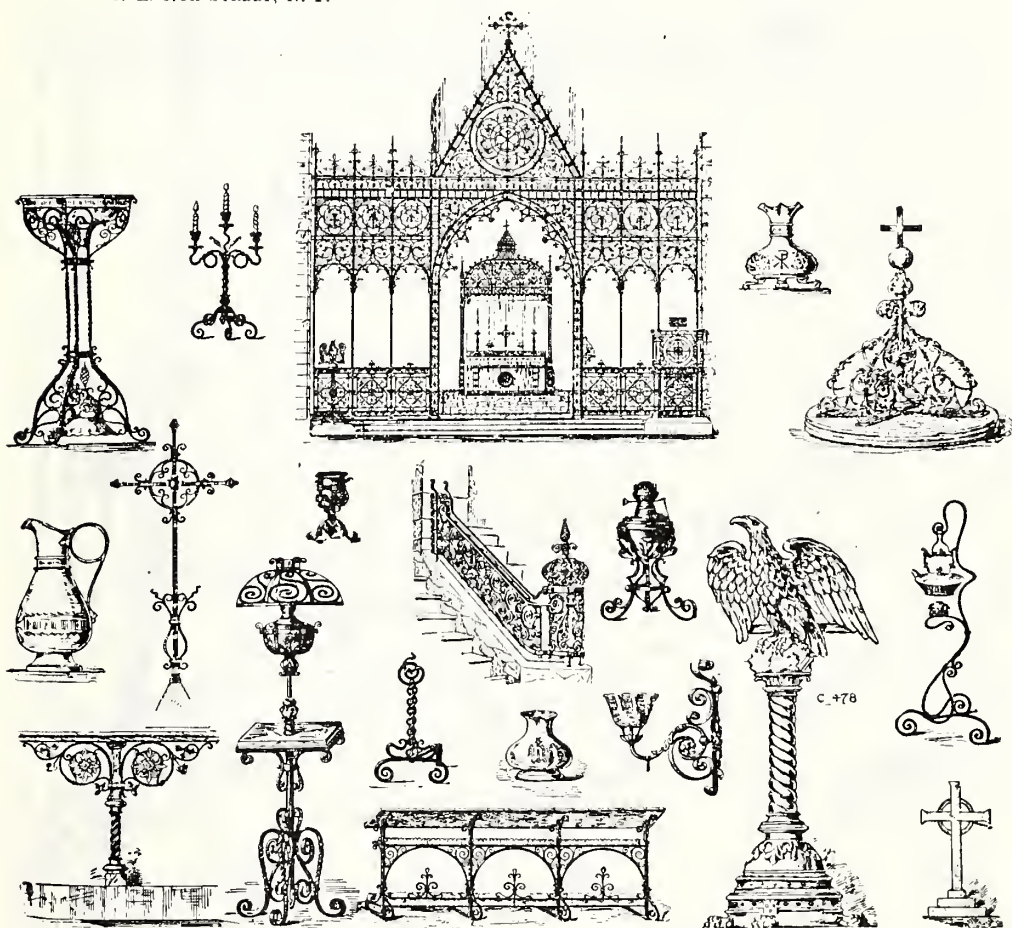
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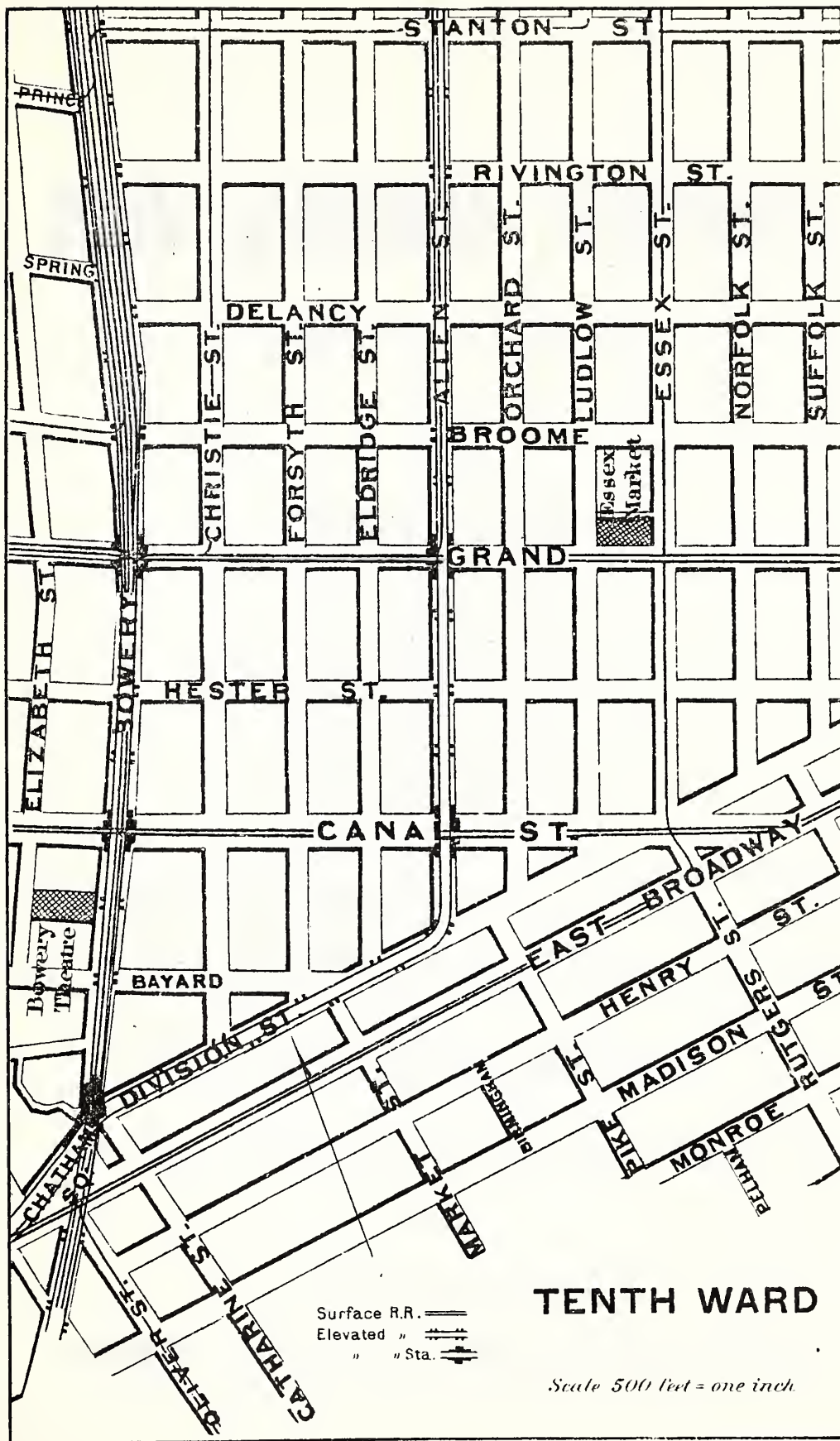
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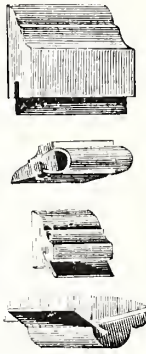
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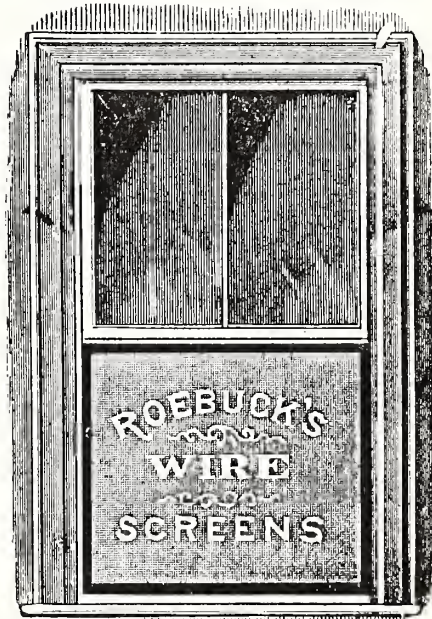
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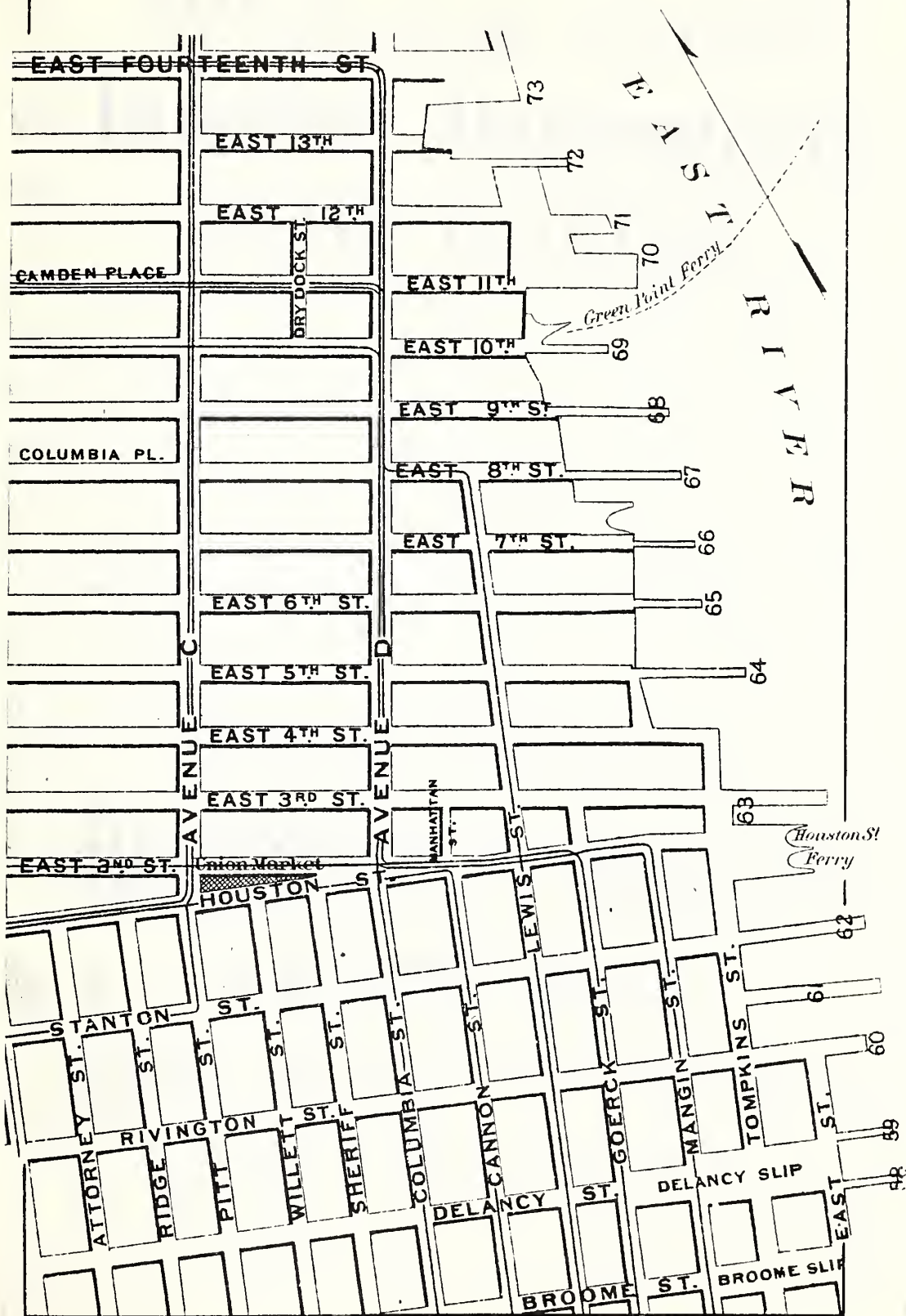
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ELEVENTH WARD

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 " " Sta. 



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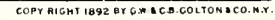
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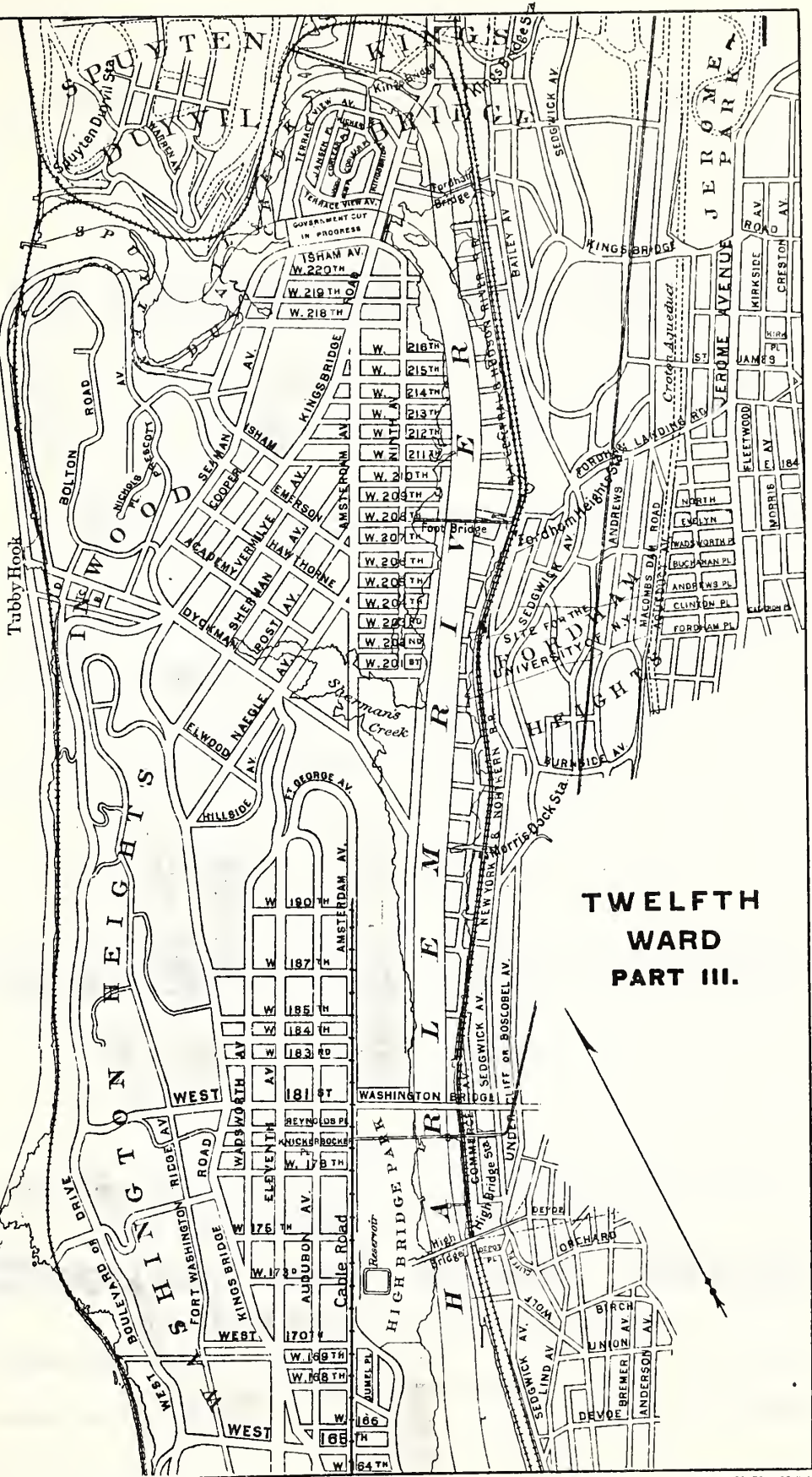
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TWELFTH WARD PART III.

Scale of Feet

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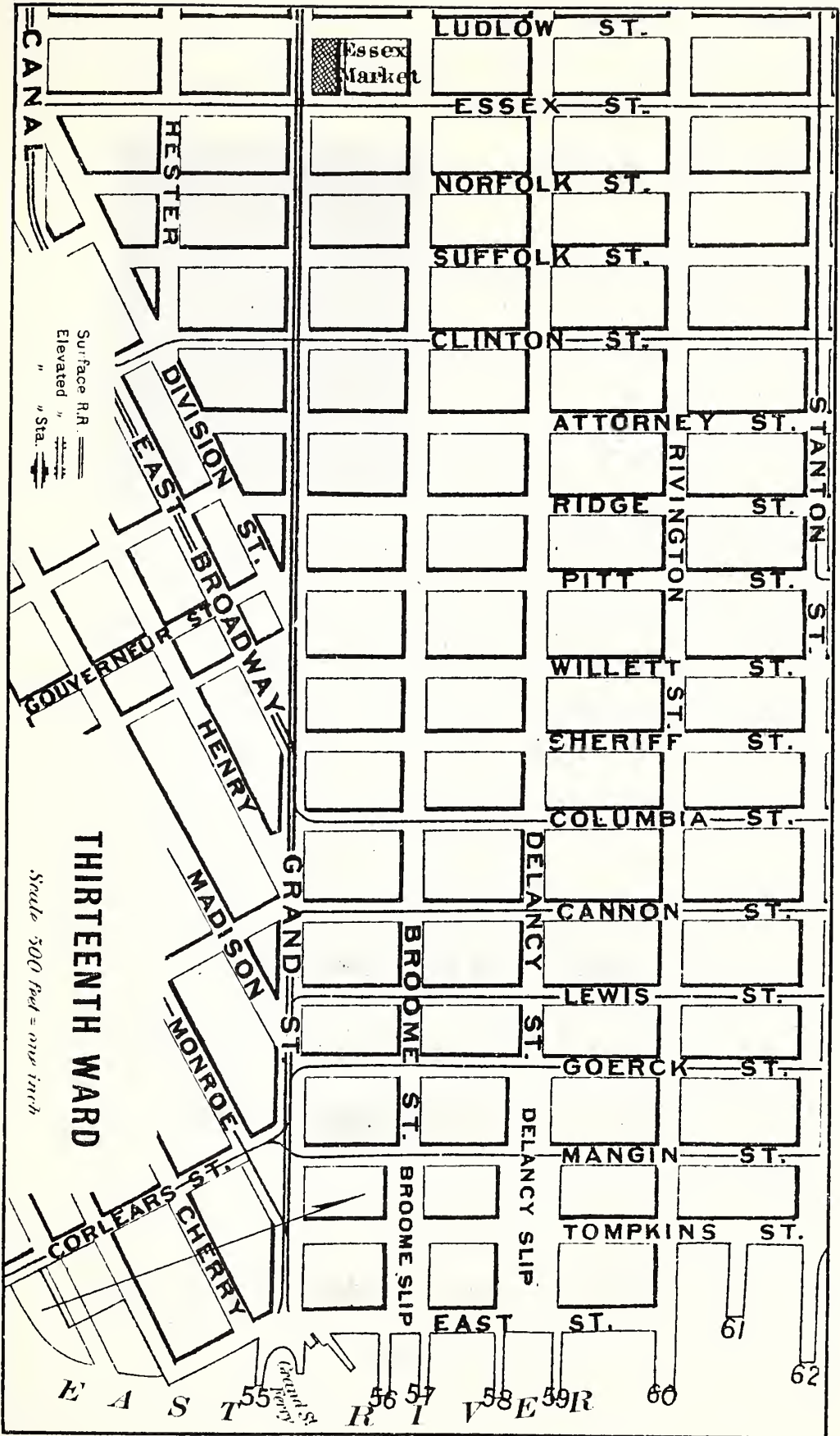
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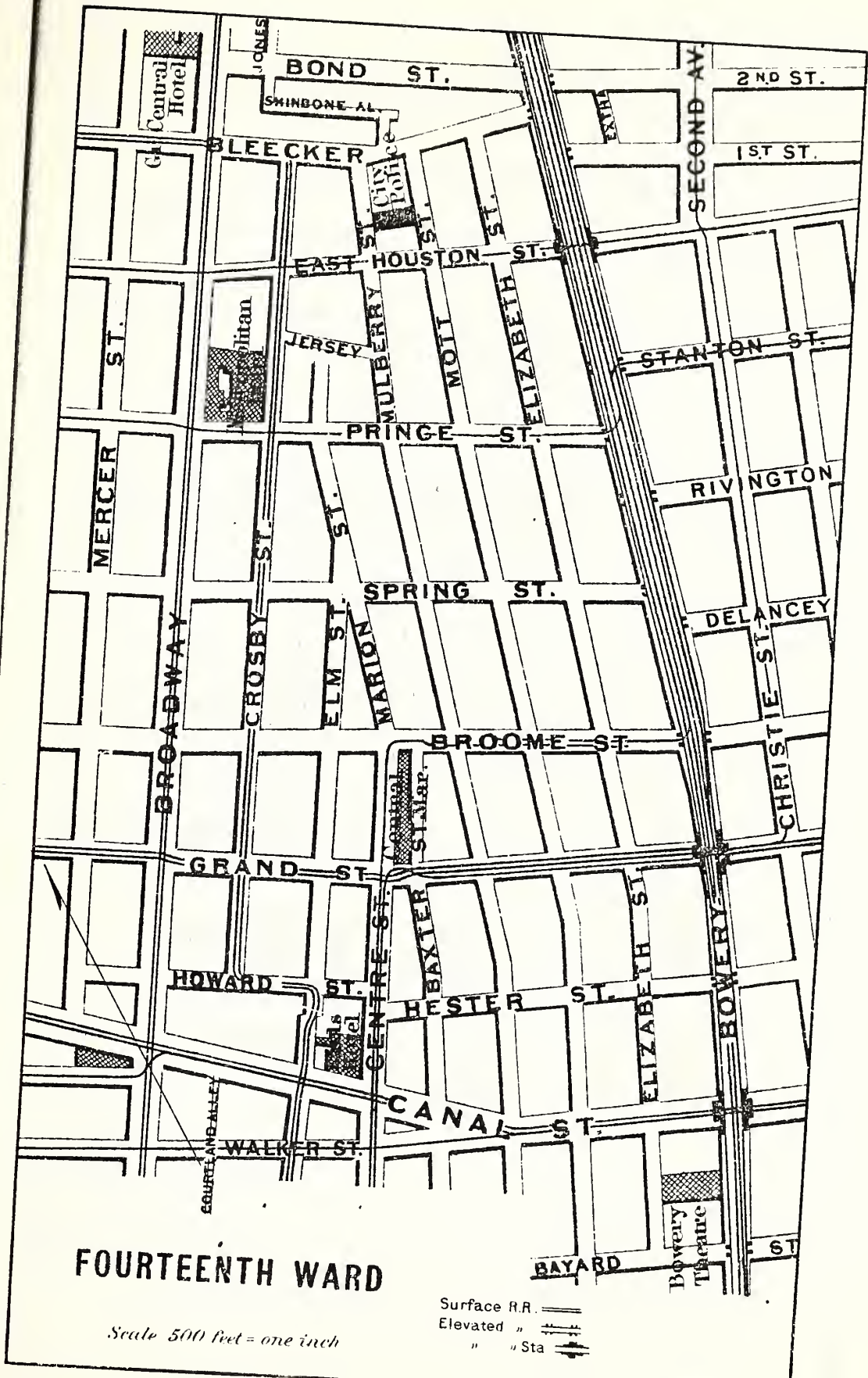
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FIFTEENTH WARD

Scale 300 feet = one inch

Surface R.R.
Elevated " 
" " Sta. 

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Hau**

Denia Hotel

BREVÖÖRT PL

RANDALL PL

CLINTON PLACE

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SQUARE**

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University
Hotel

WASHINGTON PL

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54

SIXTEENTH WARD

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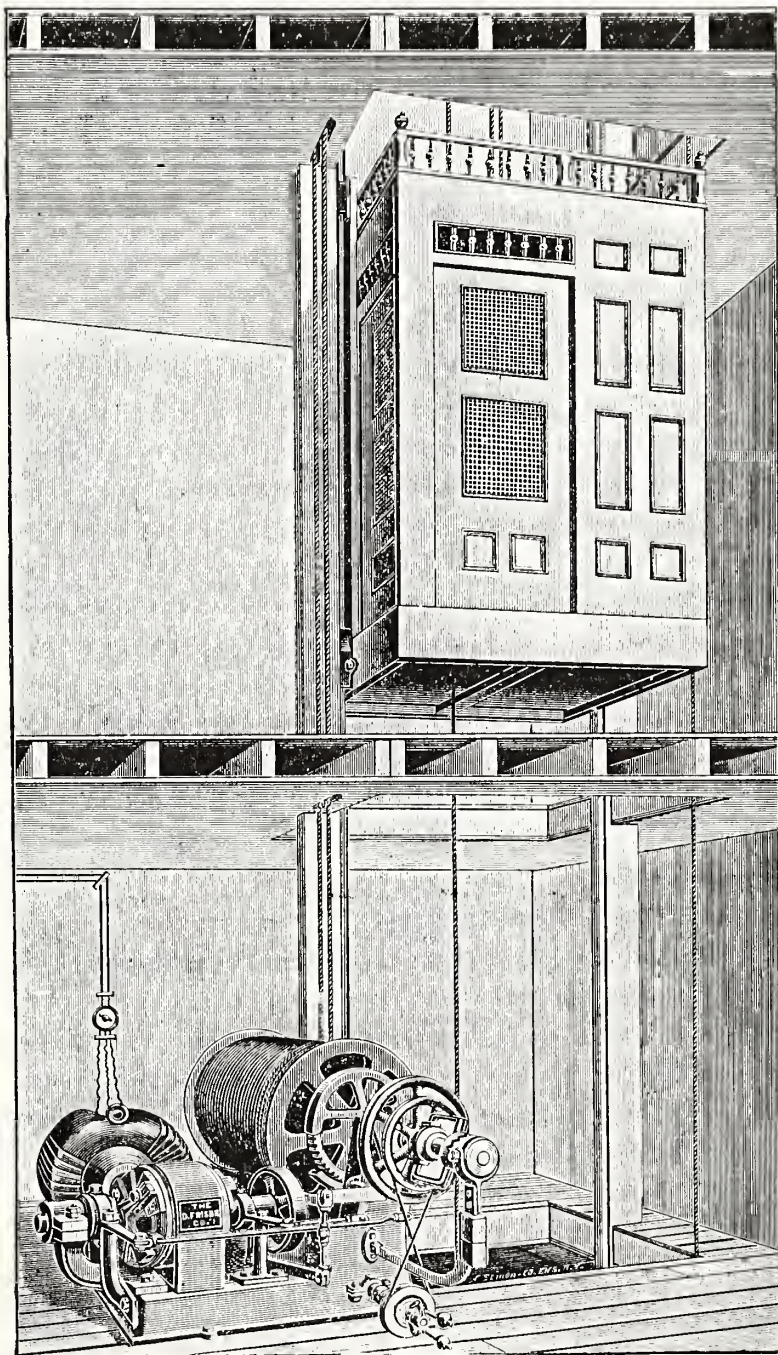
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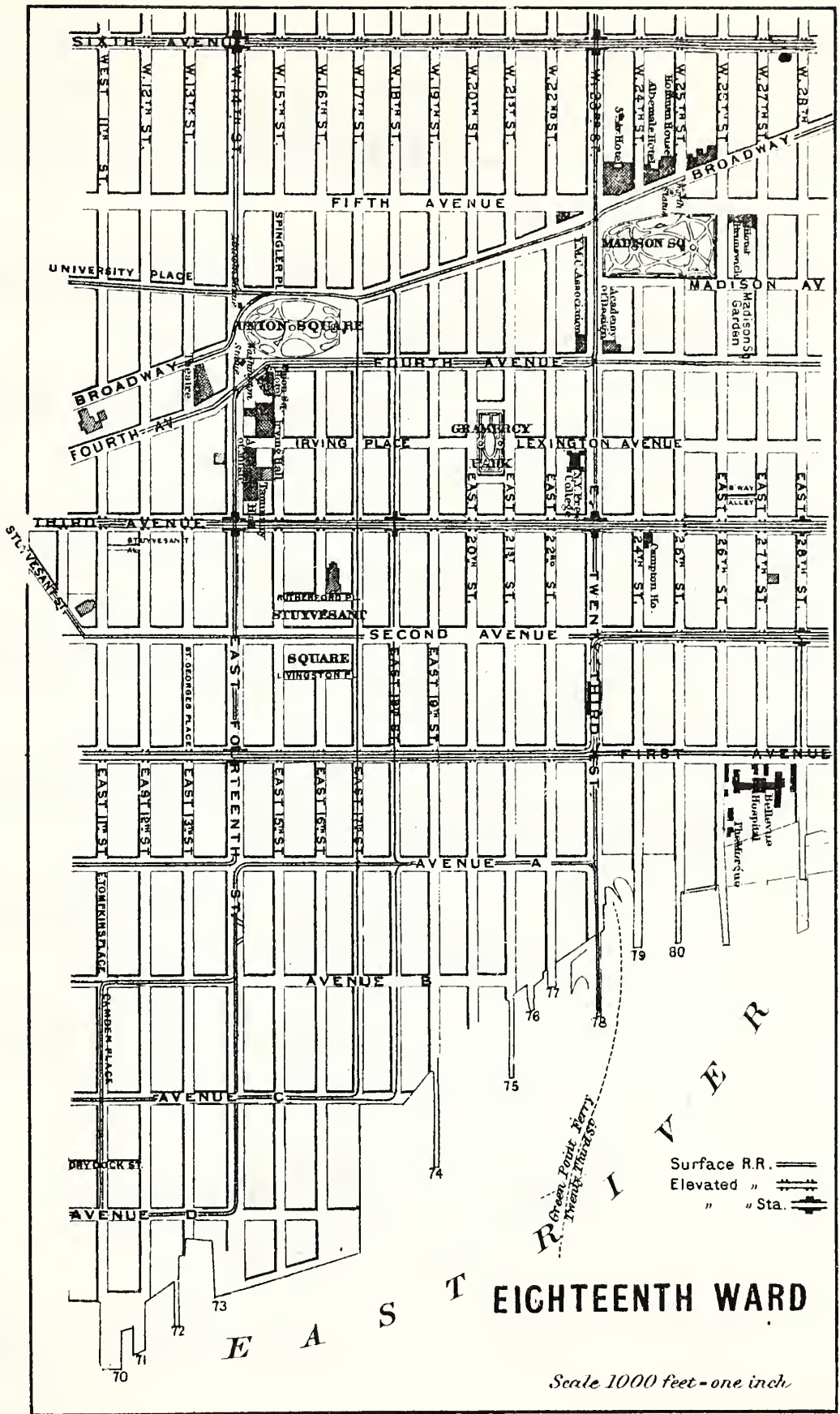
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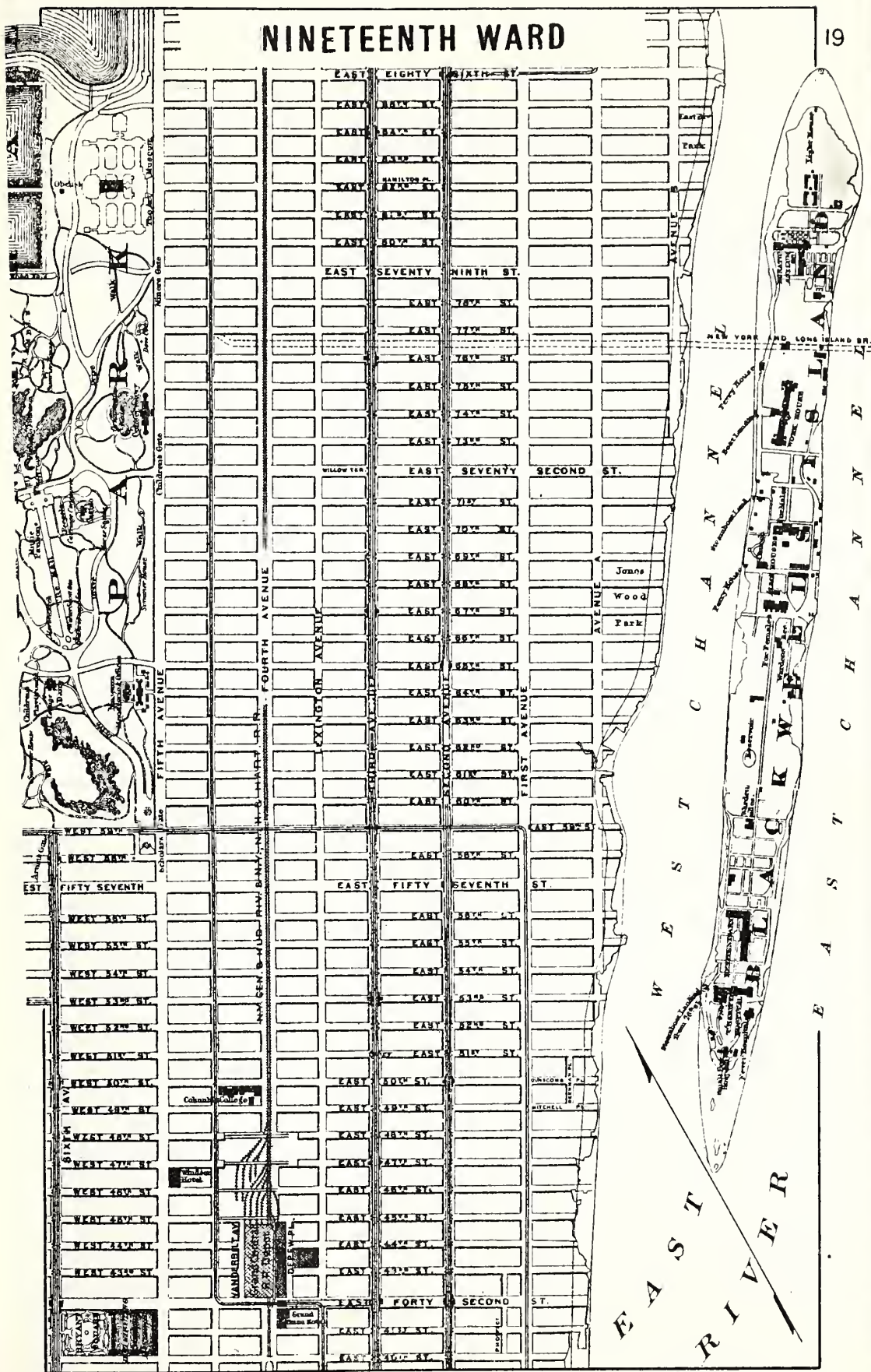
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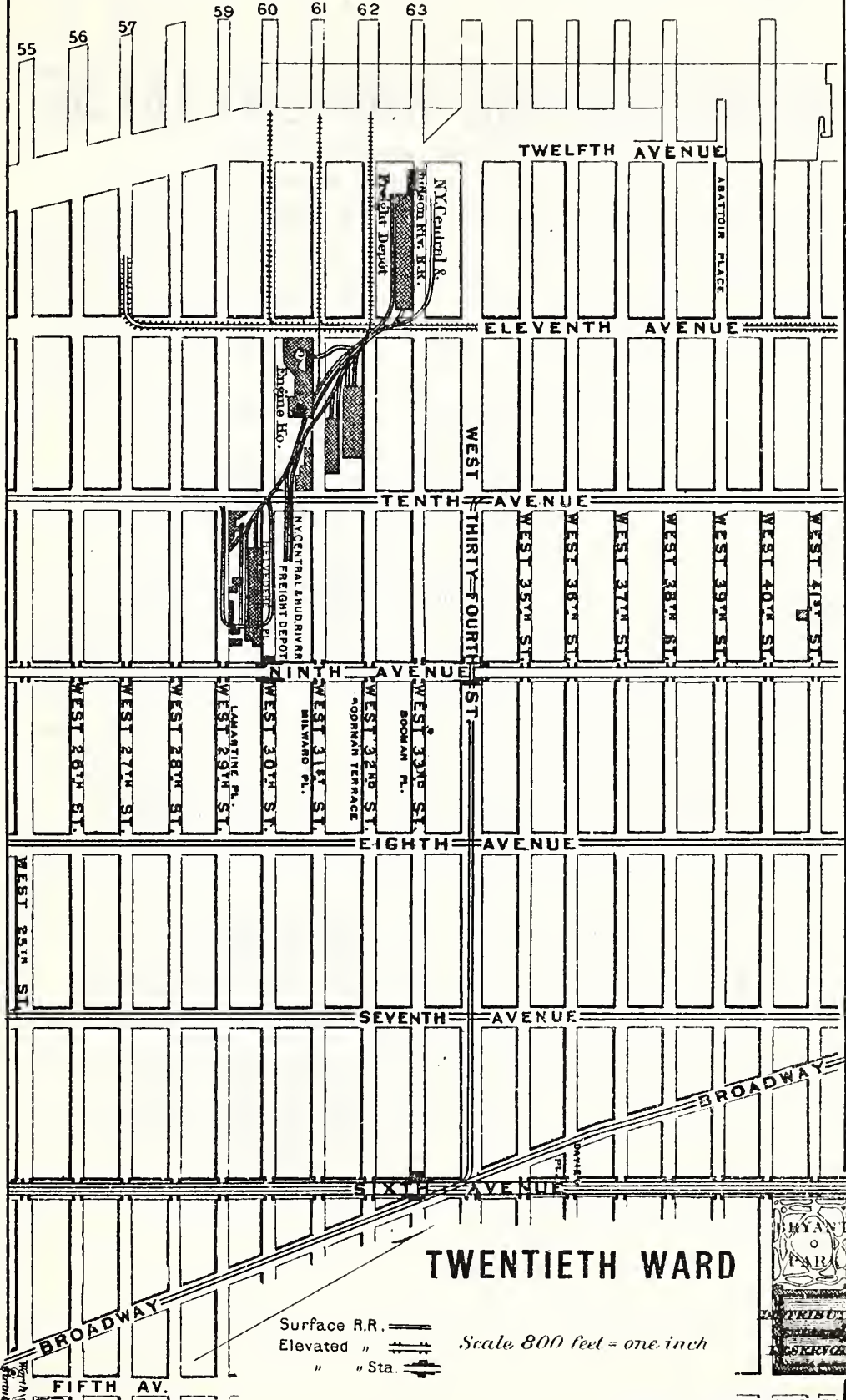
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Surface R.R.
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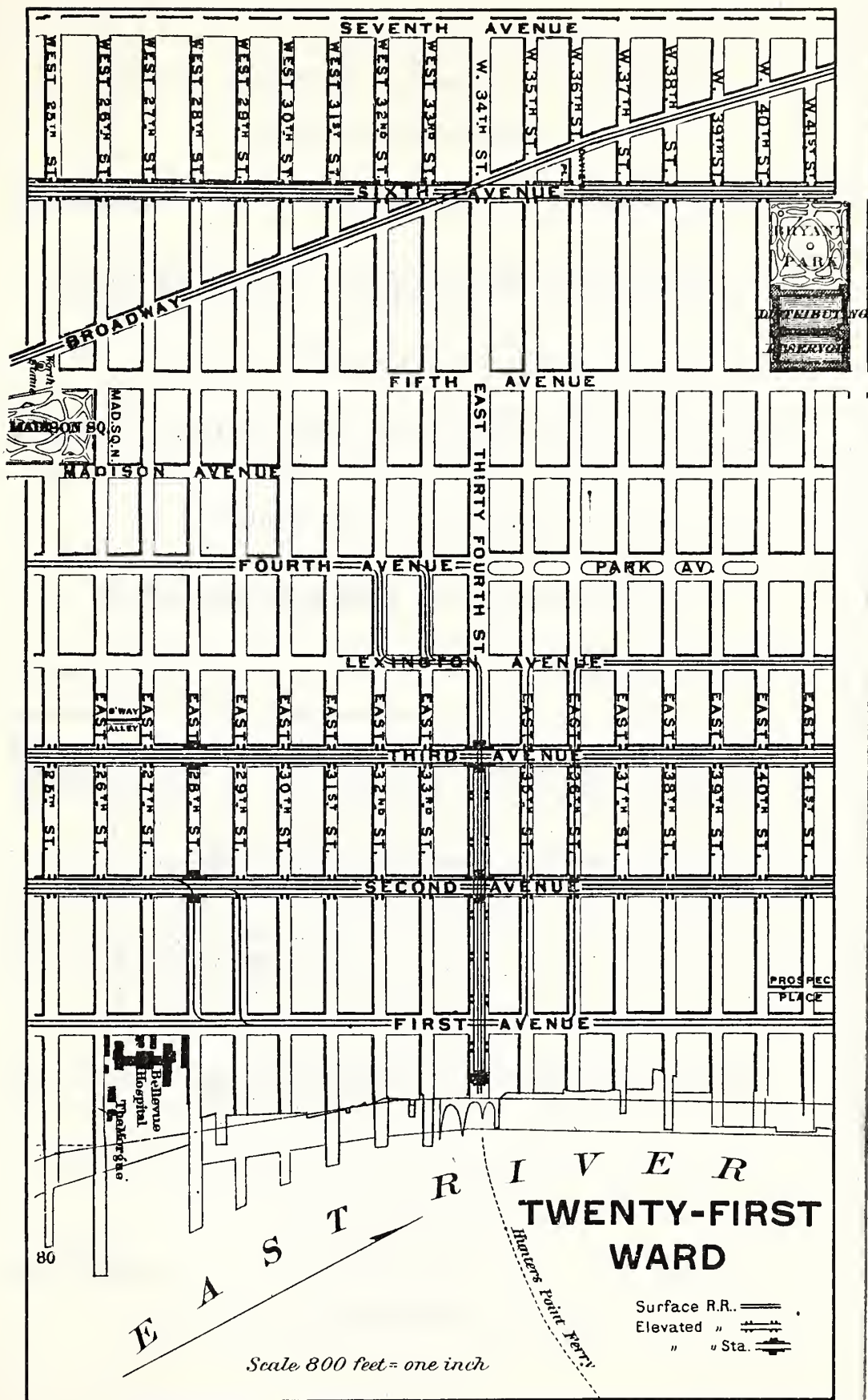
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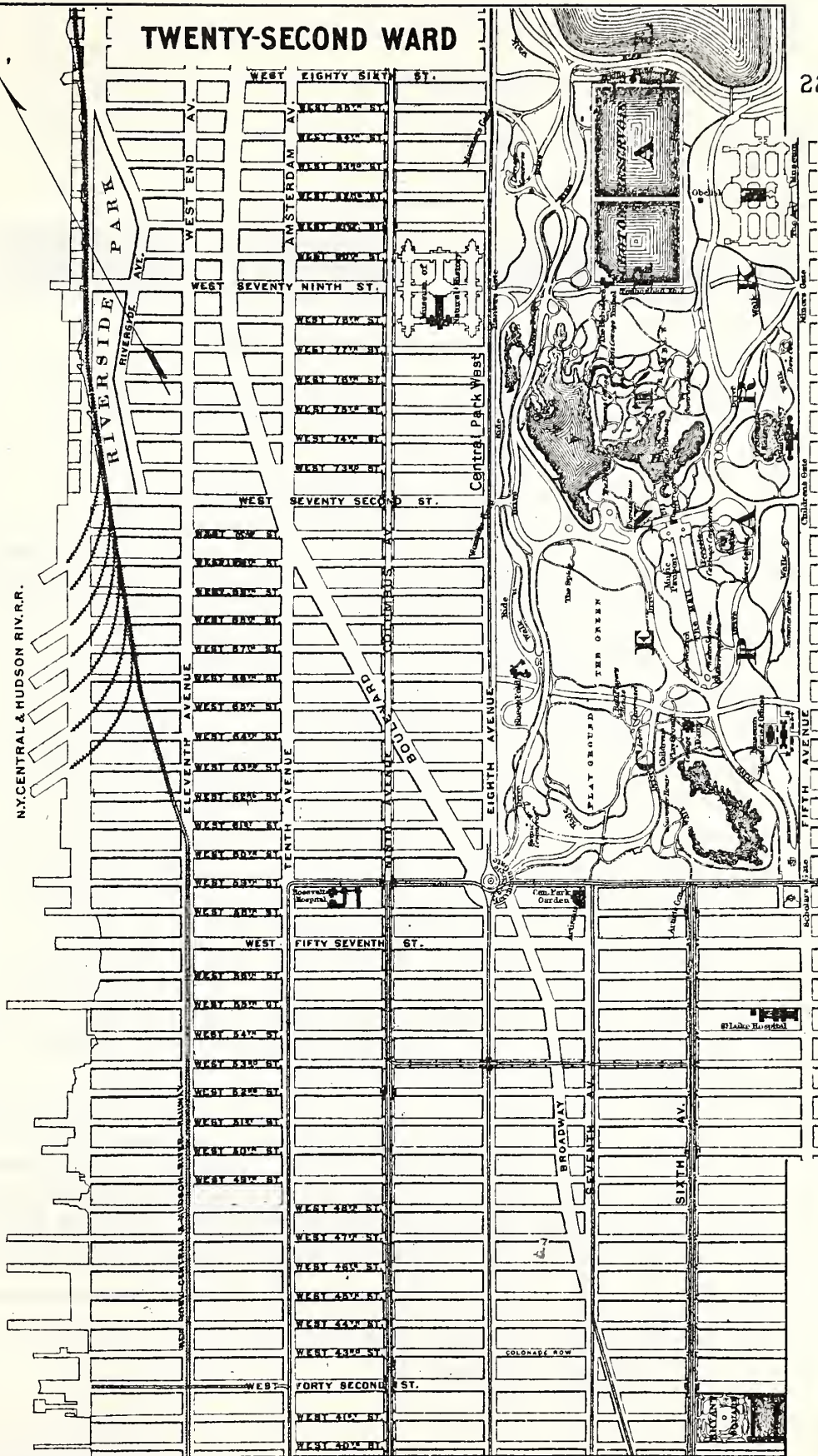
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TWENTY-SECOND WARD

22



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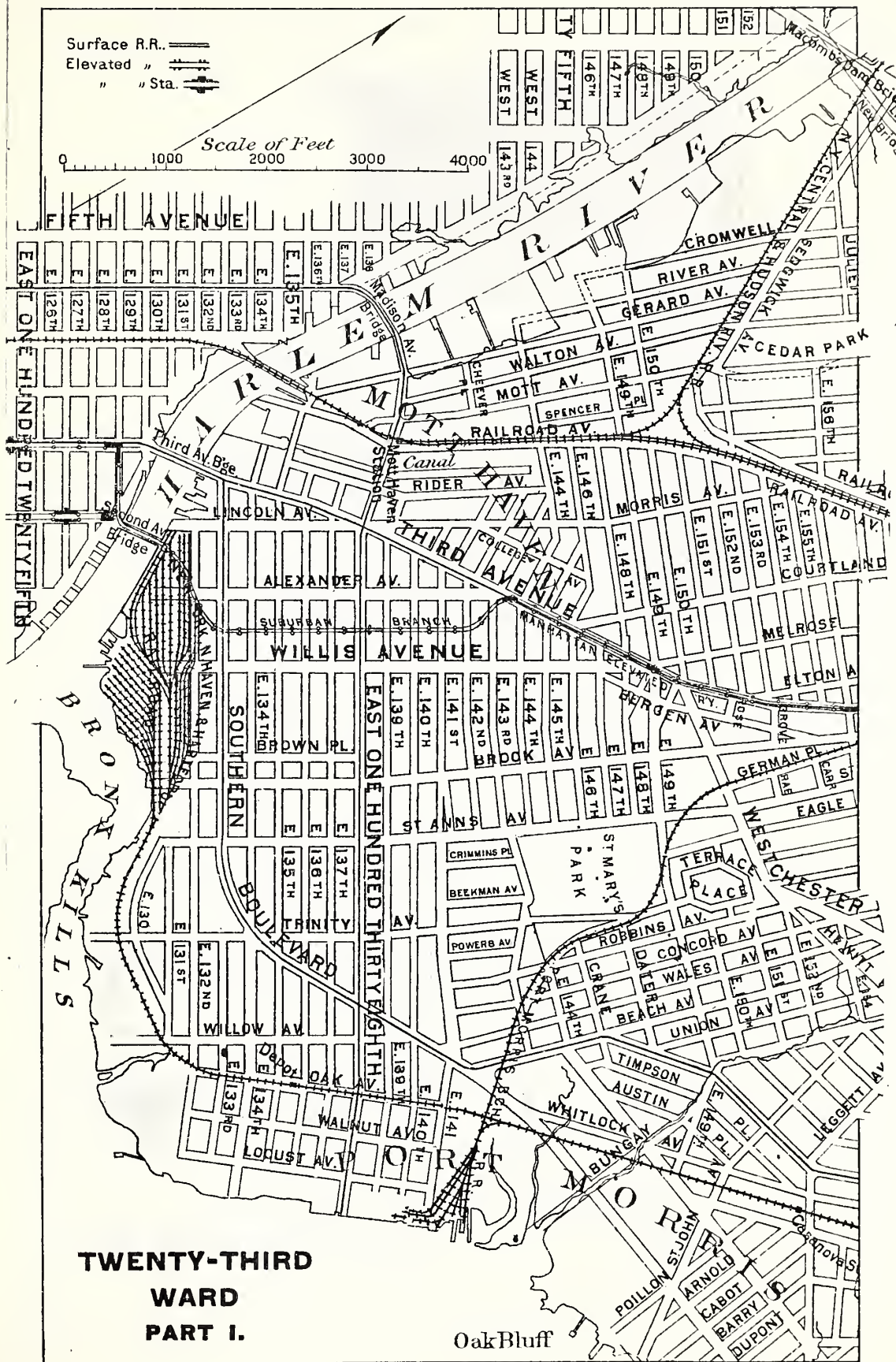
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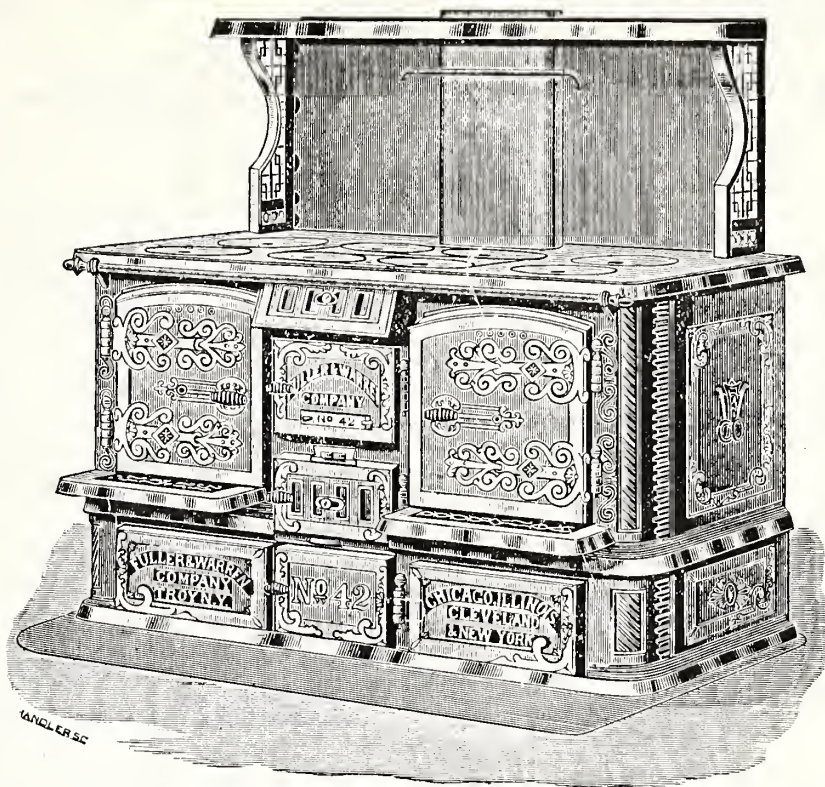
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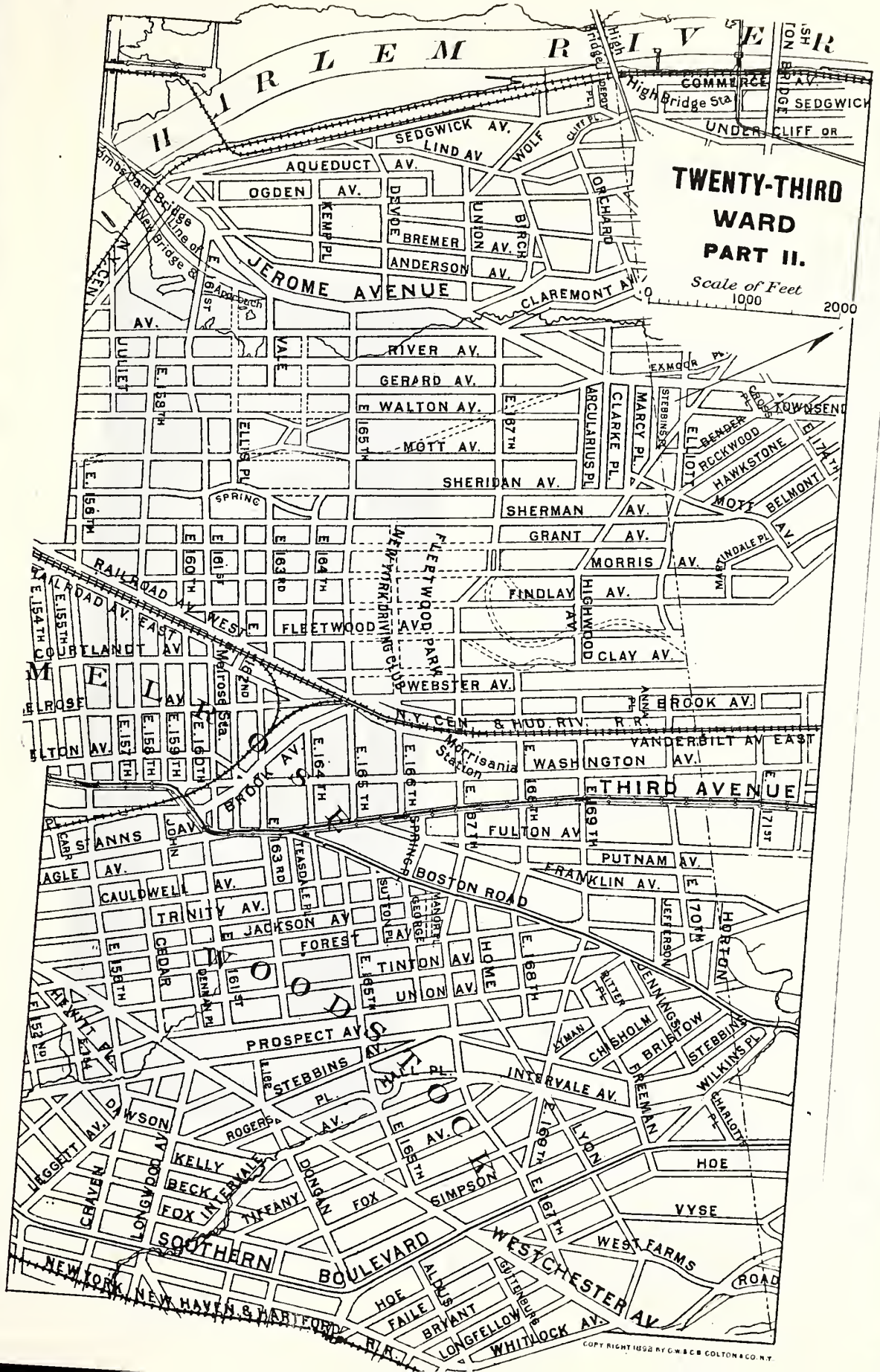
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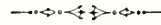
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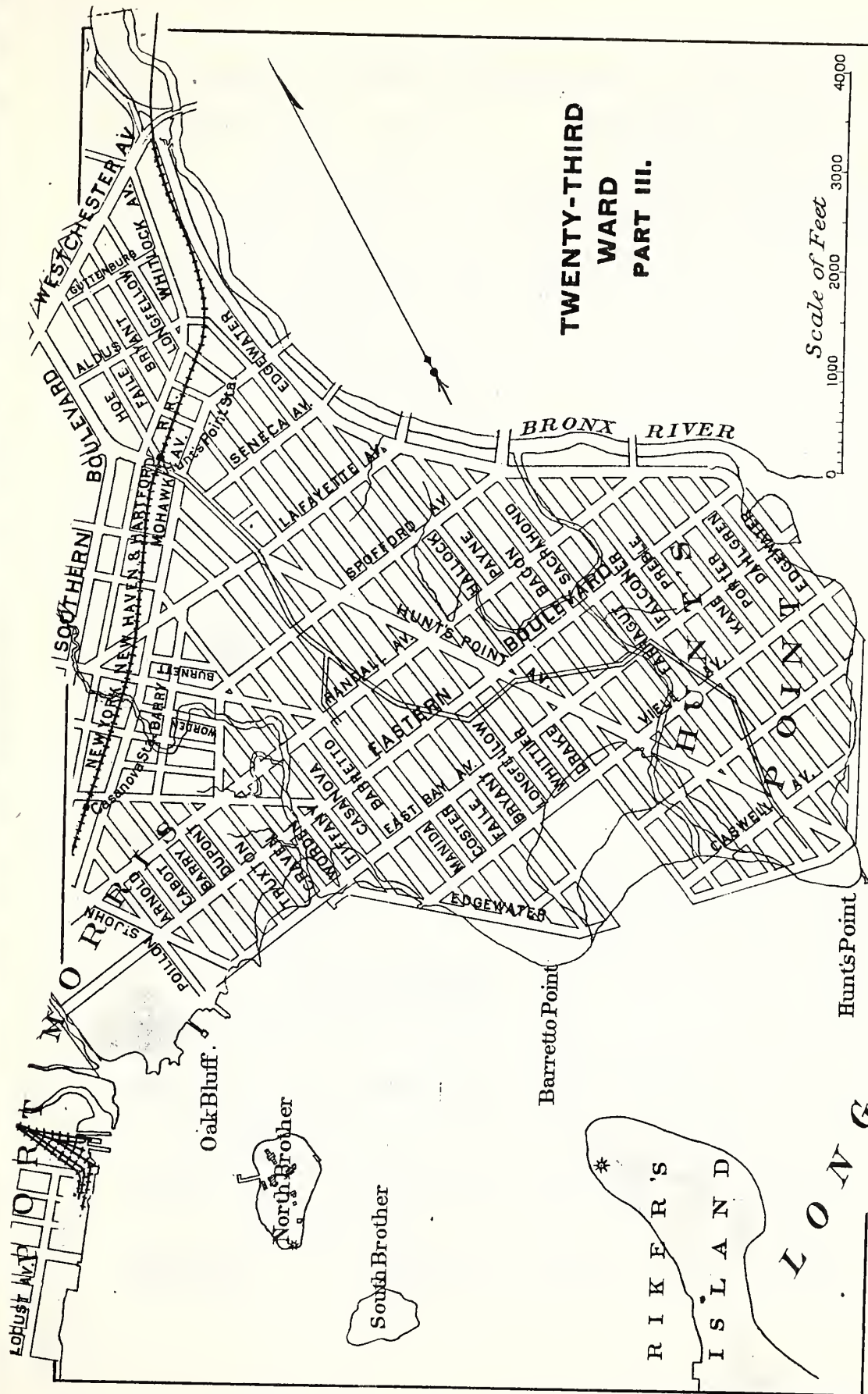
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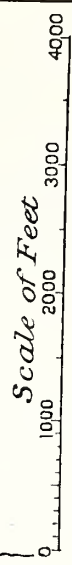
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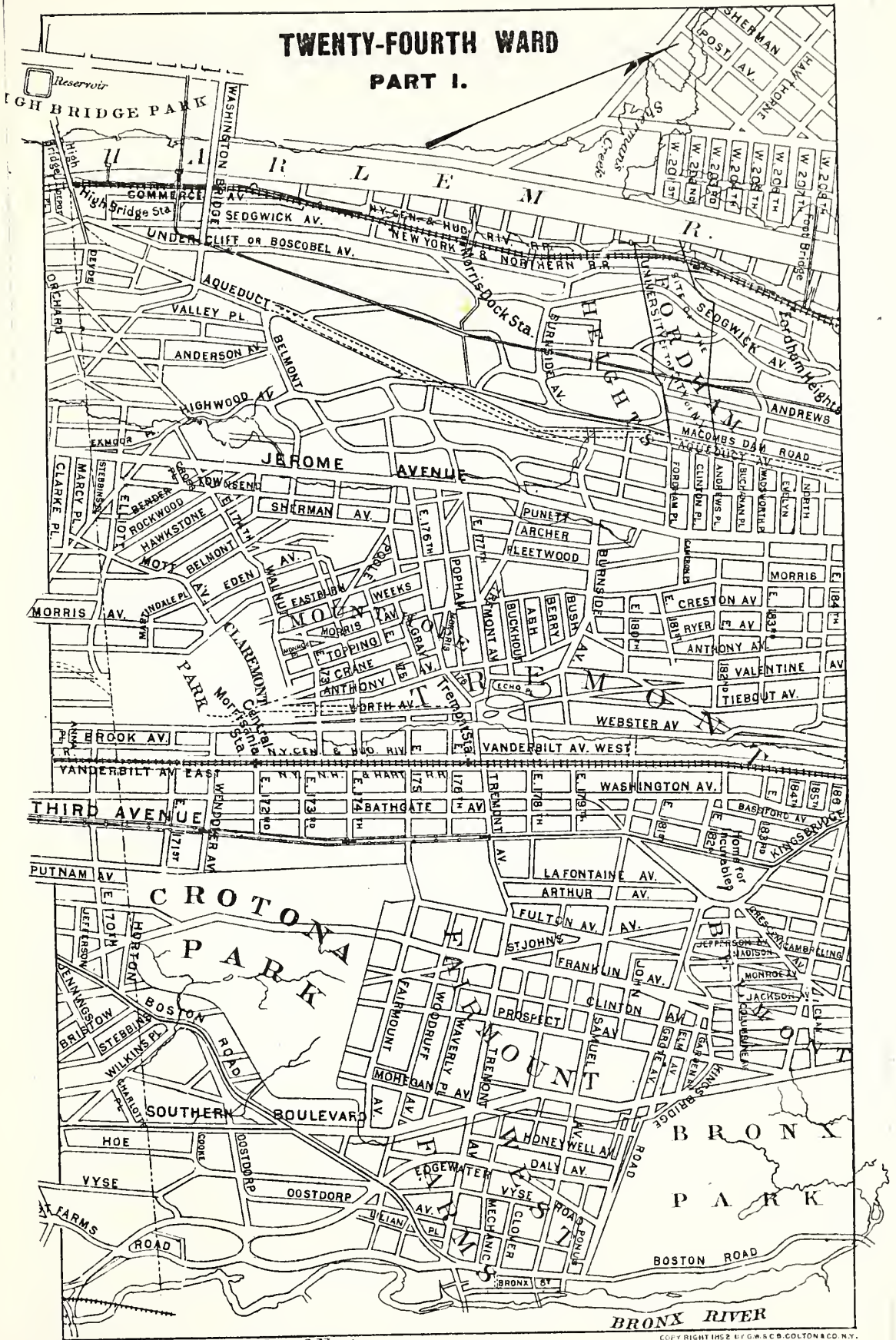
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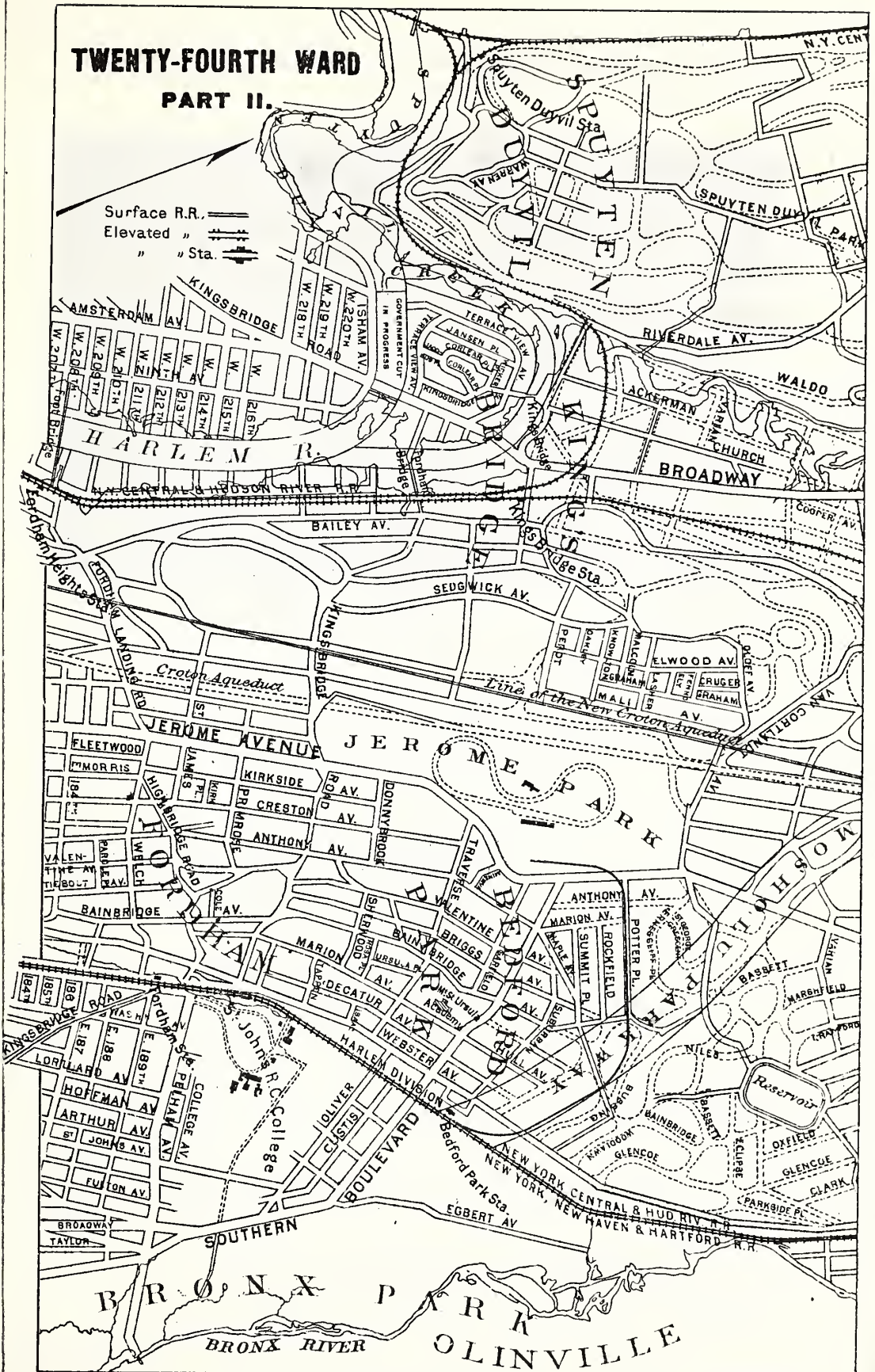
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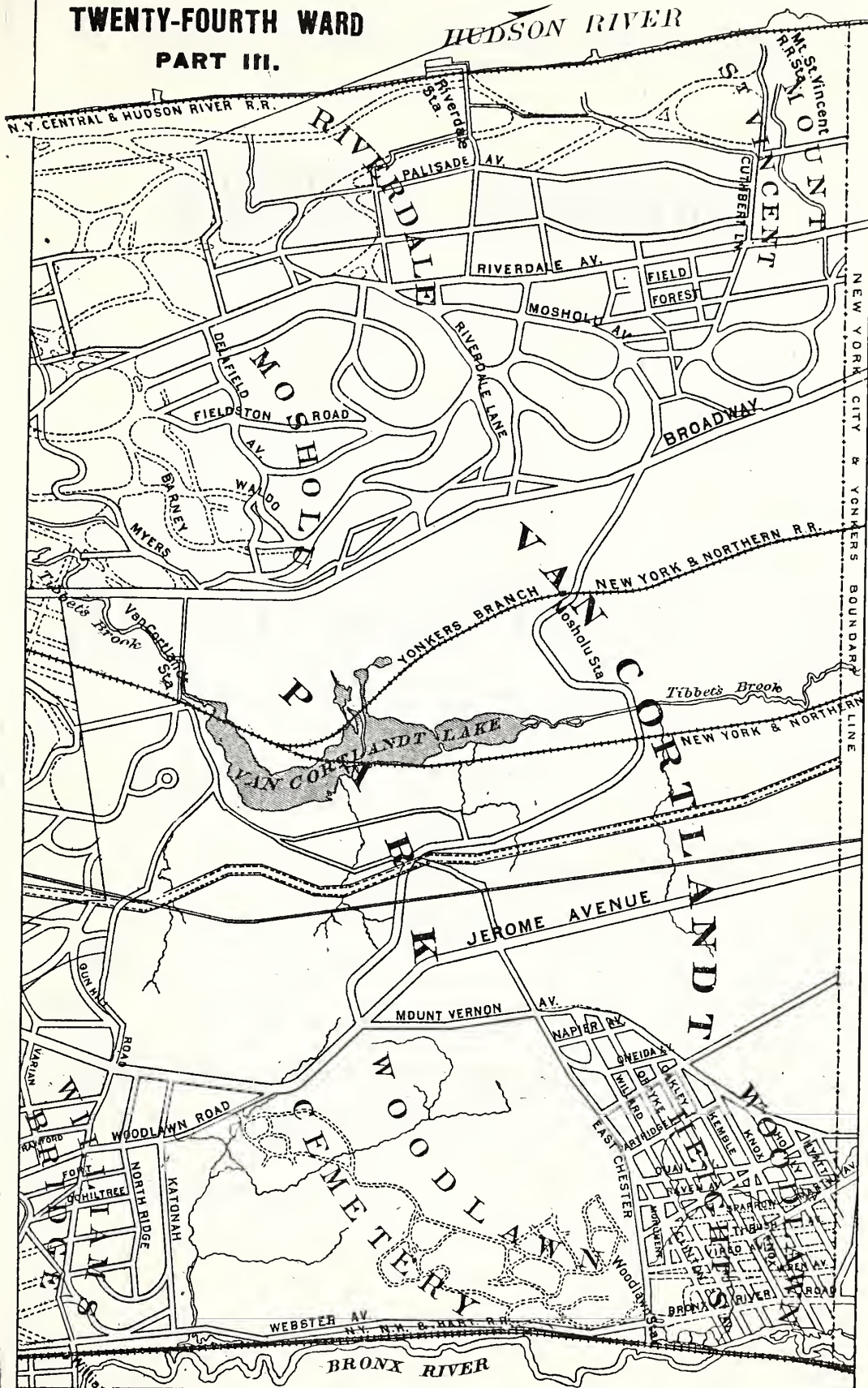
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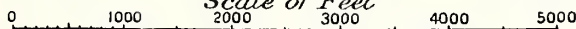
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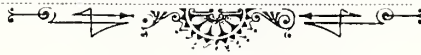


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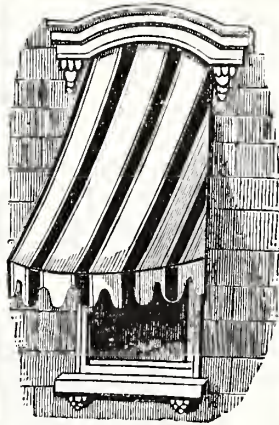
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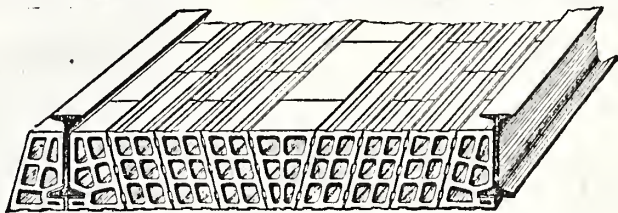
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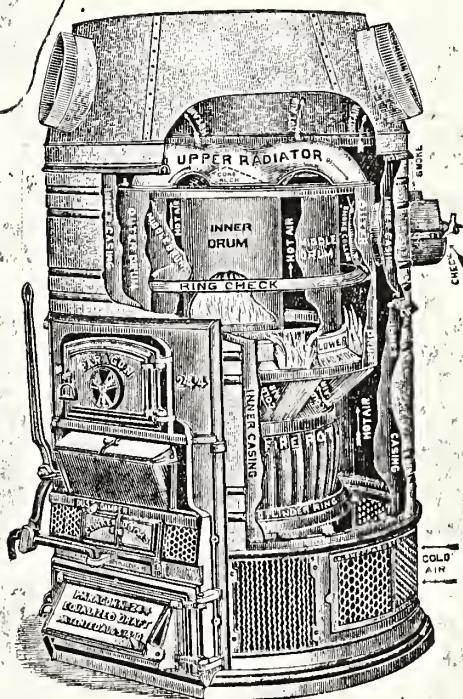
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